NORTH CAROLINA MEDICAL JOURNAL

OWNED AND PUBLISHED BY
THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

VOL. 1 MAY, 1940 NO. 5

THE UNIVERSITY OF NORTH CAROLINA
THE OLD MEDICAL SCHOOL

DR. RICHARD H. WHITEHEAD DR. CHARLES S. MANGUM

J. K. HALL, M. D.

RICHMOND, VIRGINIA

In whose mind arose first, do you suppose, the thought that the University should teach medicine, as well as other sciences and arts? It has been said that beginnings are seldom recorded. What a long time it was from the opening of the University of North Carolina in 1793 to the opening day of the School of Medicine in 1879! But the event that is to be has been forever on the way. Dr. Thomas W. Harris, who began the teaching of medicine here in 1879, was an academic graduate of the University in the class, perhaps, of 1859. He ranked high in scholastic standing. He obtained his degree in medicine from the University of New York, and he did graduate work for two or three years in Paris. His medical teaching at the University was of the preceptorial kind, which fitted students for matriculation in the large medical schools. Certain members of the University faculty gave instruction in those branches closely allied to medicine, but the medical school, if such it were called, did not become an integral part of the University during the days of Dr. Harris. He moved to Durham in 1885, giving up his teaching activities, and for five years the University was without facilities for instruction in the medical branches.

Then, in 1890, the School of Medicine was born again, as the University had been reborn in 1875. The medical division was fortunate in its new head, Dr. Richard Henry Whitehead, of Salisbury. There he had been born in 1865, about four months after President Jefferson Davis had passed through the town on his hurried journey to the south. Dr. R. H. Whitehead's background was valid and fortunate for him and for the state. Dr. Marcellus Whitehead, his father, Virginia born and educated, a graduate in 1845 of the Medical College of Virginia, had the reputation of being the best physician in western North Carolina. He carried on an extensive practice in Salisbury from 1845 to the time of his death in 1885. Yet he found time to serve as a member of the Building Commission of the State Hospital at Morganton. Dr. Marcellus Whitehead went back to Virginia in 1846, a year after he had settled in Salisbury, and brought back his bride, Miss Virginia Coleman, of Caroline County, daughter of Thomas Burbage Coleman.

It is not difficult for the student of heredity to believe that Richard H. Whitehead got by paternal transmission his love of science and from his mother's line his skill in teaching. His brother, John—elder by almost ten years—spent his professional life entirely in Salisbury. The late Dr. Isaac M. Taylor, of Morganton, a man of erudition himself, told me once that Dr. John Whitehead, whom he knew well, was the best physician in North Carolina, if not in the entire country. He was reputed to possess the same sort of innate and uncanny diagnostic acumen that had made his father famous as a practitioner. I met Dr. John Whitehead once or twice in consultation. Without apparent effort, and certainly without attempt at impressiveness, he instilled into the very atmosphere of the sick-room hope and peace and comfort. His movements about the sick one and amongst the anxious relatives constituted a benedic-

Address delivered at the dedication of the new Medical and Public Health building at the University of North Carolina, Sesqui-Centennial celebration, December 4, 1939.

tion. Dr. John Whitehead lived until 1926.

Richard H. Whitehead, his younger brother, was said to have been studious and keenly observant even in childhood. His schooling was had in Salisbury under the Reverend Doctor F. J. Murdock, a scholarly Episcopal minister, who had the rare gift of being able both to teach and to inspire his students. After a year at the Horner Military School at Oxford young Richard Whitehead matriculated at Wake Forest College and was graduated as a Bachelor of Arts in 1886. He entered the Medical School of the University of Virginia in the fall of that year and completed the two years in medicine in one year. Dr. Towles, the famous teacher of anatomy there, was so impressed by the young man's capacity to concentrate and to learn that he induced him to come back to help in teaching for the next two years. In the fall of 1889 the young physician went to New York to fit himself by clinical experience for the surgical work in his brother John's busy practice. But—"the best laid plans o' mice and men. . ." What an immortal truth the Scotch lad's plow upturned on a rocky hillside on that cold winter's day!

The University of North Carolina was determined to resuscitate its medical school that had lain dormant for five years. Dr. Richard Henry Whitehead responded to the Macedonian call of the University for his help. In 1890 he became officially dean of the medical school and professor of anatomy. For the next six years Dr. Whitehead was, indeed, the medical school. The instruction during those infant years was limited to first year medicine. It must be remembered, however, that few, if any, schools fifty years ago had a medical curriculum that occupied four years.

But in the 'nineties the beginning of an awakening in various fields of activity was obvious. In the domain of medicine, for example, objects in the world of the invisible were becoming of more concern than the mightiest monsters. Tiny little plants, visible only by the help of a powerful microscope, were asserted by some of the new-thought medical men to be the causes of such deadly diseases as typhoid fever and consumption. The very idea must have seemed ridiculous to some of the older physicians. But, such notions necessitated the use of microscopes and places in which to use them—called laboratories

The credo of the new thought was: I can know. The word science means no more than that. Jesus had said long ago that it would be possible, and now His saying is engraved in Greek on the stones of a cornice at the University of Virginia, where Dr. Whitehead had been a student and a teacher. Ye—not may—but *shall* know the truth, it is written, and then there shall be freedom.

A mere youngster of twenty-five years had come to be the medical school of the state's University. But he was essentially much older. His days had been spent in a home in which his father and his brother were constantly engaged in struggles against mortal man's greatest enemies—disease and threatening death. Would not such kinship and such environment tend to develop and to bring to early maturity a thoughtful youngster?

Dr. Richard H. Whitehead was not of such somatic structure or of such manner as to cause one to ask: Who is he? He was neither large nor small; his hair and his mustache were light, his eyes hazel. He walked with a certain stoop; but he looked upon the world about him with those keen hazel eyes, and he thought of what he saw. He spoke with a voice a trifle nasal, quietly, genially with intimates, but always with a certain aloofness to others. He was a kindly, courteous, tolerant man, and modest, as well. He possessed none of the emotionalism that we associate with the South. He did not indulge in the cup, nor in raucous jest and speech, nor in glorification of the South's deathless history. He made use of the past, but only as a key and an aid to the development of an understanding of what is and of what may be. He inspired respect and admiration, but he did not invite familiarity. He was always level-headed, never emotional, and in his search after truth he was tireless and as exacting toward himself as toward his students. With the slow-going student he would be helpful and patient, but he would not credit him with qualities he did not possess, nor was he satisfied with work poorly done.

He was a scientist: patient, earnest, tireless, humble, honest, hopeful. He did not use language prodigally, but carefully and always purposefully. His lectures were always prepared. He knew always what he was going to say; he said it simply, plainly, accurately, without repetition. Even unintimate association with him was stimulating.

One felt that within him the fire of enthusiasm was always glowing. He kept himself and those about him on their intellectual toes. Until 1896 he was the medical school. Wherever he was there the school was—anatomy, physiology, materia medica. His hopes and his longings must have been many.

In 1896, in the person of Dr. Charles Staples Mangum, one—perhaps many—of those hopes came to him. He, too, not unlike Dr. Whitehead, came out of a home in which the thought had been not of self but always of others. His father, Adolphus Williamson Mangum, had become a member of the faculty of the reborn University in 1875, after many years of service as a minister. Dr. Mangum's mother, Laura Jane Overman, was a sister of Lee S. Overman, long a member of the United States Senate from North Carolina.

At the age of five years Dr. Mangum came in 1875 with his parents to the University, and with it he lived continuously, save when a medical student in the North, until his death on September 29, 1939. He was an academic graduate of the University in 1891, and a student in the medical school under Dr. Whitehead in 1891-92, during which period he was also athletic director of the University. In 1894 he was graduated from Jefferson Medical College high up in a large class. He won the coveted Therapeutics Prize. For a year he gave himself over to practice in the coal fields of Pennsylvania. Then he was called back to Jefferson as a demonstrator of anatomy. Dr. Hobart A. Hare, Jefferson's well-known professor of materia medica, longed for Dr. Mangum as his assistant, for each was after the other's heart. Dr. Mangum must have experienced pain in declining the call to Jefferson.

But the University of North Carolina had been his home since his fifth year, many of his people were there, and Dr. Whitehead, who had taught him, was there, too, and was calling him to come back to help him make the medical school larger and better. And in 1896, Dr. Mangum came to the school as professor of physiology and of materia medica. The school then became a two-year school. We should bow our heads in thankfulness to God for directing to this University Dr. R. H. Whitehead and six years later Dr. C. S. Mangum. Their coming meant the beginning of medical education in North Carolina. I pray that medical education shall be continued here until time shall have become only a memory.

A year after Dr. Mangum came to the medical faculty I came to the academic freshman class in 1897—an event infinitely less momentous. I shall not forget my first sight of Dr. Mangum. Of course we called him Charlie, just as we called Dr. Whitehead, not Dick, but Old Dick. Why? I wonder—because Dick was little older than some of his students.There were those qualities about Dick that seemed to dissociate him from youth, certainly from familiarities; but I would not have you think of Dr. Whitehead as cold and repellant. He was, in fact, a cordial, approachable man, generous in giving himself to others. Still there was always a touch of reserve about him.

Charlie was one of the most appealing figures I have ever known. He was physically handsome; there was a lightness about his movements and a grace about his carriage, and there was about him the radiation of vitality and of joyousness such as I have observed in no other mortal. It was a privilege merely to look upon his enjoyment of life. He went about the village and on the campus and in classrooms and in homes in glad communion with all—blacks and whites, old and young, students and faculty members. He carried himself erect, with so little apparent effort that his transmutation of energy into action constituted a high art of which he was wholly unconscious. He had a clear-cut countenance, a face suggestive of a living cameo; a vibrant, cheery, musical voice, that carried always gladness and hope. Dr. Mangum touched every phase of University life. He was the son of a professor who lived until 1890, when Dr. Mangum was twenty years of age. He knew all in the village. He was musical, with his voice and with the guitar.

He mingled freely with faculty members and with students. I have long felt that he did more than any other to bridge across that chasm betwixt students and teachers that was in the olden days so deep and so impassable. But if it existed for Charlie it did not block his passage, for he skimmed along blithely from student group to faculty meetings, as easily a member of the one group as of the other. So doing, he performed a splendid service in democratizing and humanizing university life.

I was his student. I have never known a

better teacher. He had a quickly perceiving mind; he possessed skill, verbal and other kinds, in imparting his own knowledge to his students; and he aroused them to their best efforts. His familiarity with them, and theirs with him, did not prevent him from giving them what he thought they deserved for laziness and for imperfect work. His attitude towards students was more sympathetic than Dr. Whitehead's.

Dr. Whitehead resuscitated a dead medical school. He came near to making the school out of nothing save out of himself. Would it not sound blasphemous I might say he did that. Did not Dr. Mangum create the second year of the school? I should say so. And Charlie, in addition, caused to be created or assembled here, during his deanship, the Division of Public Health. I suppose both schools so intermingle their activities that one cannot be entirely differentiated from the other.

I thank God for them and for all of you, who are giving your lives daily to God, transmuting yourselves in helpfulness to your fellow-mortals. Your behavior is in commendable contrast to that of so many of the world's scientists and so-called patriots of today.

Dr. Whitehead came to the University in 1890. In 1891 he was married to Miss Virgilia Whitehead of Virginia. He and she were both grandchildren of John Whitehead, of Nelson County, Virginia. In 1905, Dr. Whitehead was called to the deanship of the Medical School and to the chair of anatomy at the University of Virginia. He had occupied those positions in this University throughout the fifteen years that he was a member of this faculty. He accepted the call to Virginia. And there in 1916, at the too-early age of fifty-one, he died.

Dr. Mangum was married in Washington City to Miss Laura Payne. Her father was an army officer. She, too, understood the art of unselfish devotion to a cause. Mrs. Mangum is the niece of my beloved old Greek teacher, Dr. Eben Alexander, whose son of the same name is a distinguished surgeon in Knoxville. Mrs. Mangum is descended directly from General James White, of my native Iredell, who went west soon after the Revolution and became the founder of Knoxville, and the progenitor of many of the best people of Tennessee and other states. I hope that Mrs. Mangum and her scholarly son may abide here.

I have not spoken of the old dissecting hall of my day, of its barrenness, of its uncomfortableness and its bleakness, nor of Bill Jones's failure, generally, to have the stove heated even on the coldest morning. What matters it? Where Dick and Charlie were there the medical school was. The mightiest sermon was preached on a barren hilltop; the most impressive teaching was done as Socrates strolled about over the Greek peninsula.

I look upon the New Medical Building with pride and satisfaction and with gratitude. But you, students and teachers, I look upon as the spirit of the medical school. Such as you constitute the basis of the hope of a mad world. May God keep you in strength and in courage.

REGIONAL ILEITIS

With Case Report

T. C. Bost, M.D., F.A.C.S.

Charlotte

Crohn, Ginzburg and Oppenheimer[1] in 1932 described a disease entity which they called regional ileitis. They brilliantly isolated this disease from a previously confused group of benign inflammatory lesions of the intestine. To this original description little has been added besides confirmatory clinical and pathologic observation.

Regional ileitis is comparatively rare, but since Crohn's classical description of this disease eight years ago an occasional case report has been made from various centers. It would appear, however, that this is not in reality a new disease, as Abercrombie of Edinburgh described a similar lesion in 1828. Proust[2] in 1907, and Brown[3] in 1909 called attention to nonspecific inflammatory tumors of the intestine, and many similar reports have been made since. This disease has been called regional ileitis, terminal ileitis, sclerosing enteritis, nonspecific inflammatory tumor, and nonspecific granuloma of the intestinal tract. The terminal ileum is most

Read by title before the Section on Surgery of the Medical Society of the State of North Carolina, Bermuda Cruise, May 13, 1939.

1. Crohn, B. B.; Ginzburg, Leon; and Oppenheimer, G. D.: Regional Ileitis a Pathologic and Clinical Entity, J. A. M. A. 99:1323-1329 (Oct. 15) 1932.

2. Proust, in Bull. et mem. soc. de chir. de Paris 33:1158, 1907.

3. Brown, in Deutsche, Ztschr. f. Chir. 100:1, 1909.

frequently the site of the lesion, but no portion of the intestinal tract can be said to be immune to it.

Pathologically, the condition is one of proliferation of the hematopoietic cells and proliferation and irritation of the somatic cells of the intestinal wall. Later there is ulceration with fibrosis, narrowing of the intestinal lumen, and a tendency toward perforation and fistula formation.

The etiology of this apparently definite clinical entity is obscure. The disease occurs predominantly in young adults, and is at least twice as frequent in males as in females. The clinical picture of a typical case resembles closely that of chronic, nonspecific, ulcerative colitis. However, the clinical course runs in four stages: (1) Acute peritoneal irritation, when the disease resembles acute appendicitis; (2) symptoms of acute ulcerative colitis with ulcerative enteritis and colicky pain, fever, tenderness, diarrhea, anemia and marked loss of weight; (3) stenotic stage with symptoms of chronic obstruction of the small bowel with a palpable mass present within the abdomen; (4) fistula formation. Fistulae often follow drainage for supposed appendiceal abscesses.

In the early stages it is impossible before operation to distinguish regional ileitis from acute appendicitis. In half of the cases reported by Crohn the appendix had been removed at a previous operation.

The onset may be sudden, with abdominal pain and diarrhea, which are not particularly severe and which tend to recur. The dull cramp-like pain may involve all the lower part of the abdomen, but is commonly localized in the right lower quadrant. Weakness, progressive loss of weight and a moderate degree of anemia are significant symptoms. The stools contain mucus, pus and streaks of blood. The white blood count, as a rule, is normal or slightly elevated. The physical signs are the presence of a moderate-sized, firm, tender mass in the right lower quadrant, and of fistulae, emaciation, anemia and signs of intestinal obstruction.

X-ray examination by the technique of Kantor[4] is the most important means of establishing the diagnosis. A helpful sign is the "string sign" (fig. 1), a thin, slightly irregular linear shadow suggesting a cotton string in appearance, which extends from the region of the last visualized loop of ileum

Fig. 1. Arrows point to "string sign."

through the entire extent of the filling defect and ends at the ileocecal valve.

The treatment of regional enteritis varies with the phase of the pathological process. When the disease is limited to the bowel and not associated with thickening of the mesentery it may resolve spontaneously. If, however, the mesentery is thickened and indurated, it is probable that ulceration of the mucosa has extended into the mesentery; spontaneous resolution then is less likely to occur, and a short-circuiting operation or a resection is indicated. Chronic regional ileitis with stenosis is best treated by resection or by a short-circuiting operation. When resection is necessary, it is perhaps best done in two stages. The first stage consists of dividing the ileum well above the diseased area, closing the distal end and anastomosing the proximal end to the transverse colon. The division of the bowel is said to prevent the further spread of the disease. However, Shearer and Jackson[5] reported a case in which they resected the ileum and the disease recurred twice, making two additional resections of the lower ileum necessary. The second stage consists of a resection of the diseased bowel and thickened mesentery, when this is necessary. When there is an external intestinal fistula, resection of the

4. Kantor, J. L.: Regional (Terminal) Ileitis: Its Roentgen Diagnosis, J A. M. A. 103:2016-2021 (Dec. 29) 1934.

5. Shearer, J. P. and Jackson, J. T.: Recurrent Regional (Terminal) Ileitis, Ann. Surg. 106:459-461 (Sept.) 1937.

involved bowel with the fistulous tract is necessary to close the fistula.

Case Report

J. C. D., a young man aged nineteen years, began in January, 1936, to have slight pain in the lower right side of the abdomen and was slightly nauseated but did not vomit. The attacks gradually grew worse and he was operated on for appendicitis at Mercy Hospital in March, 1936. The postoperative diagnosis was subacute appendicitis and mesenteric adenitis.

Following this operation he did not have any attacks for about a month. After this attacks recurred and gradually became more and more severe and more frequent. The attacks would recur about once a week, and were cramp-like in character. With these attacks he was nauseated and vomited. For a month before examination attacks were almost continuous, and he was able to eat very little because of pain and nausea. He gradually lost about 20 pounds in weight, and weighed 115 pounds at examination. He did not have diarrhea.

Family history was essentially negative. Past history was also negative. The patient had been well until January, 1936, when his first symptoms of abdominal cramps and nausea began. He was admitted to Mercy Hospital again on November 19, 1936.

Examination: The patient was slender and under weight. The head, neck, heart and lungs presented no abnormality. The abdomen was slightly distended and there was the scar of a McBurney incision. There was slight tenderness and rigidity over the lower right side, where an irregular glandular mass was palpated. It was firm but not hard, and was tender and slightly movable. There was no tenderness or masses elsewhere.

Rectal examination was negative. No examination of feces was made.

The urine was normal. Wassermann reaction was negative; hemoglobin was 80 per cent, red blood cells 4,100,000, and white blood cells 8,000; differential count was normal. Blood pressure was 120/80.

X-ray: The stomach was normal in size, shape and position, and its wall outlines were smooth. Peristalsis was normal. The duodenum was visualized and was freely movable, and the cap was normal.

The examination after three hours showed a small residue of the barium meal in the stomach and jejunum, and the coils of the ileum well filled, except for the terminal eight or ten inches, which presented a stringy, spastic appearance (fig. 1). Palpation over this area elicited tenderness. The head of the barium column at this time was filling into the cecum.

Examination after five hours showed the head of the barium column in the descending colon and the proximal colon well filled, with a small residue in the terminal coils of the ileum; the deformity of the terminal ileum referred to above was less marked.

The twenty-four hour examination showed a moderate residue of the barium meal scattered throughout the distal half of the colon.

Impression: Filling defect in the terminal coil of the ileum, cause undetermined.

Operation: On November 20, 1936, under general ether anesthesia the abdomen was opened by a right rectus incision. A sausage-shaped mass about ten or twelve inches in length presented, which was very much thickened and indurated and which proved to be the terminal ileum. The process ended abruptly at the ileocecal junction and gradually faded above into normal ileum, except that there was moderate dilation of the ileum above the diseased area. The mesentery along the diseased segment was thickened and indurated and contained many large lymph nodes.

An ileocolostomy was done, with division of the ileum about two feet from the ileocecal junction. The distal end of the ileum was closed and the proximal end was anastomosed end to side, to the colon. A mesenteric gland was removed for examination. (Pathologic report of gland, benign lymphocytic hyperplasia.) The patient reacted well and made an uneventful recovery. Three or four days after operation he was able to take nourishment for the first time in six months without pain. There was primary union of the incision and the patient was dismissed from the hospital in two weeks. He improved rapidly and the palpable mass gradually disappeared, and was completely gone two months after the operation.

Note. This man was last seen and examined in April, 1939, two years and five months after operation. He appeared to be in a normal condition, and weighed 148 pounds—a gain of 33 pounds. He had no

tenderness or pain in his abdomen and stated that he could eat anything he wanted.

X-ray. The contrast media passed readily into the colon without evidence of obstruction or undue discomfort. As the head of the barium column reached the mid-transverse colon it divided, a portion entering the small bowel at the seat of an anastomosis, and the other portion passing on into the cecum. The cecum and flexures were freely movable.

Comment

The good recovery that this patient made, and the good results reported in other cases following ileocolostomy would seem to indicate that this is the operation of choice. Most of the reported cases that have not done well following ileocolostomy appear to be those in which the anastomoses were done without severing the ileum. In these cases the fecal current was not all diverted, and could continue to pass through the diseased intestine. It seems wise to do an ileocolostomy with division of the ileum at the primary operation, reserving resection of the diseased intestine for a second operation in the cases not cured by the first, rather than to do a resection at first as has been advocated by some. Resection is simpler at the second operation because there is already a functioning anastomosis and the patient's general condition should have been improved in the meantime. These factors should lower the mortality.

Conclusion

1. Regional ileitis, or Crohn's disease, appears to be a well defined clinical entity with obscure etiology and with a characteristic pathologic picture.

2. The case here cited is reasonably typical of the disease, and the patient was cured following an ileocolostomy with the division of the ileum.

The Experimental Method. — The experimental method, insisted on by Claude Bernard and now used in the teaching of science and which should be used to understand all relationships in which life is concerned, only commences in the laboratory. Its medical use reaches its height when employed by physicians not only in hospitals but also in homes of such wealth that they have become pathological and in the quiet, kindly cottages and huts which need light from an experimentally minded and inquisitive physician.—Macnider, Wm. deB.: The Biologically Minded Physician, Science, 86:109-114 (Aug. 6) 1937.

TEAM PLAY FOR HEALTH

HENRY F. VAUGHAN, DR. P. H.,
Commissioner of Health
DETROIT, MICHIGAN

Man must make a concerted, scientific endeavor to stamp out the high cost of disease. Lack of cooperation and complete understanding between physician, public health officer, and layman has resulted in wasteful expenditure of huge sums, running into the millions. Sporadic and half-hearted measures in prevention and control are but partially productive of significant results. History is replete with occasional determined attempts to ward off impending epidemic disaster, followed by complacent return to indifference after the emergency has passed. Concerted and prolonged attack upon preventable illness and premature death is too frequently the exception instead of the rule. Even though we are indifferent to individual and social results of disease, we are compelled by our interest in economy to speed up, consolidate, and promote the combat against lingering ailments which shackle man to poor health, misery, and financial loss. Mounting costs for the care of those suffering the end results of such disease as tuberculosis demand a speeding up of preventive measures and their more universal application to all groups of our population, especially to those most intimately exposed to the high speed and mechanical innovations of modern industrial life.

Progress in the control of preventable diseases is dependent largely upon the sane manner in which the laity receives, assimilates, and utilizes health knowledge. Every city and rural area is as healthy as the people who live therein. Public health is but a summation of personal health. It reflects the health consciousness of the people of the community. That great pioneer health administrator of New York, Herman Biggs, proclaimed with reason that it is within the power of mankind to determine his own death rate; that within reasonable bounds any community can determine the rate at which its citizens shall die. During the past several decades research and advance in medical science have increasingly disclosed new information, the application of which

Read and broadcast on WBIG at the Annual Meeting of the North Carolina Public Health Association, Greensboro, May 1, 1939.

will improve the health and add to the fulness and wholesomeness of our existence. The majority of us are resistant to any outside influence which tends to change our behavior—be it a matter of politics, religion, or health habits. It requires the slow prodding influence of education through the years to show us how we may live more sensible lives. Unquestionably, the trend is in the right direction. There is evidence of a willingness to accept the dictates of the scientists and to speed up individual and public health conservation. There is, however, too much lay lethargy and too little participation by the family physician in extending the usefulness of health knowledge. More general acceptance and more universal application of preventive procedures will save enormous sums now expended in health education. The problem calls for a greater participation on the part of physicians and dentists in making more generally available the techniques of prevention, and for a more willing response on the part of the public to accept these services which are designed and intended to protect the health of all.

Too frequently we are lulled into a false sense of security. We feel that the problem of tuberculosis has been solved or we assume that the public health officer and the tuberculosis society have the situation well in hand. While it is true that the death rate from tuberculosis is but one-fifth of what it was one hundred years ago and but one-third of the rate at the turn of the century, this disease still remains an important cause of death. In early childhood, it is the cause of three times the number of deaths occasioned by all the communicable diseases added together (including diphtheria, scarlet fever, measles, whooping cough, and the dread infantile paralysis). Tuberculosis from twenty to forty years ranks first among the causes of death. There is still need to keep up the fight against the bacillus.

We must include in our fight against tuberculosis all phases of the *span* of community health service. The word SPAN is used advisedly. In this day of alphabetical projects, in this era of hours devoted to anagrams and the solution of cross-word puzzles, it seems appropriate to use a simple word, every letter of which is significant. I am not proposing that my four-letter word *span* will go down through the ages like the writings of the great philosophers, Socrates, Plato, and Aristotle, but I do hope that long after you have forgotten this paper you will remember that to fulfill your program of community health service you must complete the *span*. The S suggests that our preventive programs must be built on a foundation of reliable *statistics*. Fortunately, we do not play with hypothetical conjectures of cause and effect. Learned philosophical discussions are quite out of order. Scientific medicine gives us proven facts. In the case of tuberculosis we have been able to isolate the causative organism. With the aid of the microscope we can see the tubercle bacillus; we know his habits, his mode of life and his relation to the sex, age, color, and occupation of man. We know that tuberculosis is a dangerous communicable disease, spread from individual to individual—largely a family or household disease. With this knowledge we can forge ahead and develop a program of protection.

The next important feature of the health span is the *preparation* of the various groups which are to participate. There is urgent need of pooling resources, of liberating the potentialities of every professional and educational group and focusing these upon the dissemination of health knowledge in terms so simple that every layman may understand. Again, in the case of tuberculosis, we no longer rely upon clinical symptoms and evidence demonstrable by a stethoscope. We know that such an implement does not discover the early case of tuberculosis. We must use the tuberculin test and an x-ray examination of all positive reactors, and especially of those who have been intimately exposed to tuberculosis or who reside in areas of high mortality, or who are employed in certain danger zones of industry. We must be certain that the public will secure the type of service to which it is entitled—not the obsolete examination of the vintage of 1890.

Important is the integration into our program of those professional and educational groups which remain relatively dormant unless activated by some zealous health officer or medical society officer. There are some 140,000 physicians and 90,000 dentists in the United States who, by training and experience, are qualified and willing to contribute materially to an expansion of the community health facilities. Every physician in this great state should become in fact a sort of

deputized health commissioner, should practice preventive as well as curative medicine, should speed up the diagnosis of abnormalities which, if neglected, lead to physical and mental handicaps, retarding the normal growth and development of children and weighing so heavily upon people at every age. There is no suggestion that the family physician serve as a substitute for the health officer. Quite the contrary. It is suggested that they team together and thus add to the effectiveness, availability, and usefulness of the preventive program. This can be accomplished with advantage to the public, community, the health department, and the physician. No one gains by delay in the diagnosis of incipient disease. Surely, there is no advantage to the patient who finds that tuberculosis has already advanced to a stage where the deribbing operation is necessary to close his cavity from which the dangerous tubercle bacilli are being expelled. Surely, there is no advantage to the public which each year is confronted with an increasing cost of hospital care, family, and social relief for the victims of disease. No, I presume the only one who would be disappointed is the undertaker—and he will catch 100 per cent of us eventually.

In this matter of *preparation*, frankness demands a note of caution. By and large, all physicians have been trained to look upon sick individuals and not sick communities. They are wont to overlook the causes which may have contributed to a particular case of tuberculosis. Since it is a communicable disease, the disclosure of a new case demands a search for the sick lung from which the bacilli have been poured forth like spit bombs to spread infection in the household, the school, or the community. The health-minded family physician must go deeper into the problem than the mere examination of the patient who stands before him in his examining room. Furthermore, the layman is unable to discern the physician qualified to practice the modern techniques of preventive diagnosis. All of this necessitates careful preparation of the physician through training in medical schools, through post-graduate conference for those already in practice, and through some system of coordination or professional relationship with those who are not accustomed to attend medical meetings and who may not even belong to an organized medical or hospital group. It would be foolhardy to teach the public to seek a diagnosis until there is every assurance that the rank and file of physicians are qualified to serve in their new capacity as deputized health commissioners.

The major part of the *preparation* program remains unfulfilled. After all, the public health man and the family physician can do nothing without the friendly and conscientious cooperation of the layman. If we are fighting diphtheria, our education program must reach the parents of children of susceptible age. These guardians of the health of youth must be convinced that diphtheria is a preventable disease and that the means of protection are readily available.

The public must be taught that the tools for finding early tuberculosis are the tuberculin test and the x-ray examination of the chest. In the expansion of the health education program we must not overlook the educators, the school teachers, superintendents, and members of the board of education, the newspaper editors, the clergyman, the veterinarian who examines the meat we consume and protects our pets against the ravages of rabies, the school engineer—that supervisor of the light, ventilation and environmental sanitation to which the young are daily exposed—all of these groups have an interest in certain phases of health service. Efficiency and economy demand a correlated program of health interest.

There yet remains the completion of our *span*. The A and the N are as significant as the S and the P with which we began. Having interested the physician and layman, our problem resolves itself immediately into the development of a service which will be *available* to all alike *notwithstanding* the financial condition of the family. You now have, therefore, the secret of the *span—a* stands for *availability—n* for *notwithstanding*. Now our word is complete. Of course the method of completion may vary with the locality, but that the job should be complete is axiomatic. There is no need of telling the parent that all the children of the household should have a tuberculin test or an x-ray examination unless it is made economically possible for the service to be secured. Local ingenuity will vary the method by which this service is provided. Many of us feel that the most efficient and effective method of accomplishment is by including the family

physician in the program. Public opinion, I feel sure, demands that the physician receive some compensation for services rendered. If the family, because of financial embarrassment, is unable to meet the cost, a modest subvention from public funds should be provided for the indigent or near-indigent case. There is evidence to show that intelligent people appreciate the value of preventive medicine and realize that such service is as essential to the health and well-being of the household as food, fuel, shelter, or any other necessity of life. Society must provide such essentials when the family exchequer is small or depleted.

In one of the large mid-western industrial cities an intensive effort has been made during the past year to speed up the finding of the early case of tuberculosis in districts of high mortality, and especially among those families where there has occurred a recent case or death from this disease. Already 125,000 persons of all ages have visited the office of a family physician; more than one-fourth of these persons have had a positive tuberculin test; nearly eight out of ten of this latter group have submitted to an x-ray examination of the chest and there have been found some 600 additional new cases of tuberculosis, of which approximately one-third have tuberculosis in an early stage, and but a few in the advanced stage. Eighty per cent of these cases have been hospitalized or isolated under proper hygienic conditions. The saving in hospital bills made possible by finding early cases—for the average period of hospitalization for the early case is but one-half that of the advanced case—has already paid for the added cost of health education and diagnostic service. From now on dividends will be paid not only in better health for the family but in savings in the city's health budget. Here the *span* of community health service has been completed through the teamwork of layman, physician, and health officer. No city or county can afford to neglect this opportunity to save money. We cannot afford to pay the high cost of unnecessary illness. Tuberculosis and other preventable diseases are still with us. The rapidity with which these causes of illness and premature death tend to disappear will depend upon the seriousness with which we attack the problem. We visualize the family physician, not necessarily as a tuberculosis expert, but as a very potent factor in discovering early tuberculosis—a G-man in the line of attack. It is he who, by and large, sees the first departures from normal health. Tuberculosis is still a very human problem. It is a people's disease; the fight is the people's fight against a people's plague. From the viewpoint of the biologist, man must move faster in his preventive service than the tubercle bacillus moves in scattering his kind among our susceptible families.

THE DIAGNOSIS AND MANAGEMENT OF EARLY INFECTIOUS SYPHILIS

J. LAMAR CALLAWAY, M. D.
DURHAM

AND

GEORGE M. LEIBY, M. D.
RALEIGH

The diagnosis of early syphilis is purely *laboratory*[1 2]. The use of the term "early syphilis" in this discussion is meant to describe infectious syphilis in the primary or the secondary stage. The detailed clinical, morphological, and histological characteristics of lesions of primary and secondary syphilis will not be discussed in this paper, because we want to emphasize the necessity for the laboratory diagnosis of early infectious syphilis. General clinical characteristics of the typical chancre should be familiar to every physician, but, as is well known, these criteria do not always hold true. It has been shown on many occasions that, although as a rule the primary lesion is single, there sometimes may be as many as a dozen chancres in a single patient. This exception from the general rule appears also in other so-called characteristics of the chancre. Since the introduction of the dark field microscope and serological tests, clinical criteria so necessary before the advent of these diagnostic measures have lessened in importance.

Moore[3 4] has outlined six diagnostic max-

From the Section of Dermatology and Syphilology of the Department of Medicine, Duke Hospital, and the North Carolina State Board of Health.

1. Stokes, J. H.: Modern Clinical Syphilology, Philadelphia, W. B. Saunders Co., 1934.
2. Moore, J. E.: The Modern Treatment of Syphilis, Springfield, Ill., Charles C. Thomas Co., 1933.
3. Moore, J. E.: The Diagnosis of Syphilis by the General Practitioner, Ven. Dis. Inform., Supplement 5.
4. Moore, J. E. et al: The Management of Syphilis by the General Practitioner, Ven. Dis. Inform., Supplement 6.

ims for use in the diagnosis of primary syphilis, which are listed below:

1. Any genital lesion in male or female is possibly primary syphilis until proved otherwise.
2. Any indolent lesion anywhere on the body (especially on the lips, tonsils, fingers) which fails to heal in two weeks may be primary syphilis.
3. The diagnosis of primary syphilis is a laboratory and not a clinical procedure.
4. Do not treat suspected primary syphilis locally until repeated dark field examinations are negative.
5. Do not give anti-syphilitic treatment on suspicion. Prove the diagnosis.
6. There is need for urgent haste in diagnosis. Hours count.

A great number of genital and extra-genital lesions may resemble primary syphilis. Some of the most common and most characteristic lesions will be listed below:

Genital

Chancroid
Secondary syphilis
Infectious relapse
Herpes progenitalis
Lymphogranuloma inguinale, (Lymphogranuloma venereum)
Lymphopathia venereum
Gonorrhea
Balanitis gangrenosa
Scabies
Venereal warts
Tertiary syphilis
Granuloma inguinale
Traumatic lesions
Pyogenic lesions
Epithelioma
Tuberculosis

Extra-genital

Herpes
Traumatic lesions
Sporotrichosis
Tularemia
Pyogenic lesions
Tuberculosis
Epithelioma

The diagnosis of early syphilis is established by a systematic investigation as detailed below:

1. Dark field examination of surface serum. If dark field examination is negative, repeat on three consecutive days before any local therapy is used.
2. If dark field examination of surface serum is negative, do a dark field examination of aspirated serum from the base of the lesion.
3. If this is negative do a dark field examination of material aspirated from a satellite lymph node.
4. If sufficient serum is available send serum to laboratory for local serological studies.
5. Do serological tests at first visit. If positive, begin treatment at once with an arsenical.
6. If all tests are negative, do serological tests at weekly intervals for the first month, and twice monthly until a three months' serological follow-up study has been carried out.

In addition to these investigations the Frei tests and the intradermal chancroidal antigen test should be used routinely. In resistant lesions which do not respond to treatment, biopsy should be performed to rule out specific granulomas and other entities.

The diagnosis of secondary syphilis is again a laboratory procedure. Cutaneous manifestations of secondary syphilis may be so slight and evanescent that they may be completely overlooked by the patient and physician. Fortunately, however, the serological test is always positive in secondary syphilis. Certain maxims such as were applied to the establishment of the diagnosis of primary syphilis may be used in secondary syphilis as well:

1. Blood serological follow-up on suspected primary lesion.
2. Blood serological studies on any generalized skin eruption.
3. Blood serological studies on sore lips, sore throats, or other conditions of a similar nature which persist for more than ten days.
4. Blood serological tests on patients with general malaise, headaches, vague bone and joint pains.
5. Blood serological tests on unexplained patchy loss of hair.
6. Blood serological studies on all patients with iritis.
7. Blood serological studies on all patients presenting a generalized lymphadenopathy.

The cutaneous manifestations of secondary syphilis are so varied that to give a list of conditions simulating it would be to include most of the skin diseases known to mankind. Generally speaking, it may be said that if the lesions are vesicular or bullous they do not represent acquired early syphilis. However, a list of the more common skin diseases

which may be confused with secondary syphilis follows:

Pityriasis rosea
Toxic erythema
Dermatitis medicamentosa
Erythema multiforme
Urticaria
Psoriasis
Seborrheic eczema
Tinea versicolor

It must be remembered that many times the only visible lesions of secondary syphilis appear on the mucous membranes. Below are listed some of the mucous membrane lesions which may resemble syphilis:

Herpes simplex
Vincent's angina (Fuso-spirochetal infections)
Aphthous ulcers
Streptococci sore throats

Iritis, alopecia areata, vague bone and joint pains all demand explanation and serological study.

The public health aspect is most important, and case finding and follow-up work play an important part in the syphilis control program. It should be determined if possible from whom the patient acquired syphilis and to whom he may have transmitted the disease. All contacts either before or after the patient has acquired syphilis should be examined clinically and by serological study.

Once the diagnosis of early infectious syphilis has been made, in either the primary or secondary stage, treatment is essentially the same. It is important always to begin treatment with an arsenical, as the disease is infectious and constitutes a public health problem in this stage. The necessity for early diagnosis and early treatment can be emphasized by the fact that the probability of cure is more than 18 per cent better in sero-negative primary syphilis than in sero-positive primary syphilis, and 21 per cent better than when the disease is discovered in the secondary stage. Neoarsphenamine and bismuth subsalicylate are suggested in the treatment schedule that we will outline. We recognize, of course, the superiority of arsphenamine in certain individual cases and we realize that the use of mapharsen must be considered in certain patients who react unfavorably to neoarsphenamine; but the reason for the selection of neoarsphenamine and bismuth subsalicylate is that they are well-tried and proven drugs whose everyday use is more familiar to the majority of practicing physicians. We recommend that the spinal fluid examination be performed between the sixth and twelfth month if no signs of central nervous system syphilis develop in the meantime. If signs of meningeal irritation or other signs of central nervous system syphilis develop, spinal fluid examination should of course be done immediately. The schedule for treatment is a modification of that advocated by the clinical cooperative group, and is tabulated below.

It is recognized by the authors that there are other treatment systems, including the Pennsylvania concurrent treatment regime, that are excellent. The schedule given below is an attempt to simplify the management of early infectious syphilis.

TREATMENT SCHEDULE FOR EARLY INFECTIOUS SYPHILIS

Weeks	*Drug*	*Dosage*	*Drug*	*Dosage*	*Remarks*
1	Neoarsphenamine	0.3	Bismuth Subsalicylate	0.1	Overlap with bismuth at beginning and end of first neoarsphenamine course.
2	Neoarsphenamine	0.45	Bismuth Subsalicylate	0.2	
3	Neoarsphenamine	0.6	Bismuth Subsalicylate	0.2	
4	Neoarsphenamine	0.6	Bismuth Subsalicylate	0.2	
5	Neoarsphenamine	0.6			
6	Neoarsphenamine	0.6			
7	Neoarsphenamine	0.6			
8	Neoarsphenamine	0.6			
9	Neoarsphenamine	0.6			
10	Neoarsphenamine	0.6			
11	Neoarsphenamine	0.6	Bismuth Subsalicylate	0.2	
12	Neoarsphenamine	0.6	Bismuth Subsalicylate	0.2	
13-20			Bismuth Subsalicylate	0.2	
21-28	Neoarsphenamine	0.6			Spinal fluid examination
29-36			Bismuth Subsalicylate	0.2	
37-42	Neoarsphenamine	0.6			
43-50			Bismuth Subsalicylate	0.2	
51-58	Neoarsphenamine	0.6			
59-70			Bismuth Subsalicylate	0.2	
Total	Neoarsphenamine	32.	Bismuth Subsalicylate	42.	

(If arsphenamine is used the dosage would not exceed 0.4 gram. If mapharsen is used the dosage should not exceed 0.06 gram. Other preparations of bismuth may be used if preferred to the subsalicylate.)

The following points should be emphasized:

1. Beginning the treatment with an arsenical, overlapping the beginning and end of the first course with bismuth given concomitantly.
2. Continuous treatment with no rest periods.
3. Prolonged continuous treatment for one year after blood and spinal fluid become negative.
4. Rigidly controlled year of probation.
5. Periodical physical and serological examination for the remainder of life.

In summary, may we emphasize again that the diagnosis of early infectious syphilis is purely laboratory. Treatment begins with an arsenical, is continued with no rest periods, and is prolonged for one year after negative blood tests and spinal fluid examination. The follow-up of all contacts is important from a public health viewpoint. Periodic follow-up examinations for the remainder of the patient's life are essential.

THE TREATMENT OF DIABETES

D. E. BEST, M. D.

GOLDSBORO

The treatment of diabetes calls for a well planned regime, with cooperation between physician and patient. The treatment outlined in this paper is based on my experience with diabetes as a general practitioner. For a number of years I have been especially interested in diabetes; during the past three years I have had under treatment seventy diabetics.

Diabetics are classified as mild, moderate, and severe. Mild diabetes is controlled by diet alone. Moderate diabetes is controlled by 30 units of insulin a day. Severe diabetes requires above 30 units per day.

I would divide the treatment into three phases, which go hand in hand: first, instruction of the patient; second, diet; third, the use of insulin. The third phase is not required in every case. When a diabetic patient is admitted to the hospital, the first thing I do is to explain that the disease cannot be cured, but that patients who follow instructions generally realize the normal expectancy of life. I immediately obtain for each patient Joslin's Diabetic Manual, and instruct him to read the entire book. This is an excellent book, and very few patients have any trouble in understanding it. The patient is urged to ask any questions he wants to. He (and later some member of the family) is taken to the diet kitchen and shown how his food is prepared and weighed. After the first day in the diet kitchen he weighs his own food, and is instructed by the dietitian how to calculate his diet and make substitutions in order to change his menu from day to day, without change of calories. He weighs his food and calculates his diet during his stay in the hospital. After watching the nurse sterilize the syringe and prepare the insulin, he is shown the places on his body where hypodermics can be given, and is allowed to prepare and give his insulin for the remainder of his stay in the hospital, under the supervision of the nurse. He is also taken to the laboratory and shown how to test his urine for sugar with Benedict's solution.

Dieting still constitutes the most important part of the treatment of diabetes. The diet should maintain weight and yet keep the blood sugar under 150 and prevent glycosuria. With the advent of insulin dieting was neglected, but it was soon found to be more necessary than ever. I try to give as near a normal diet as possible, allowing white bread, Irish potatoes, sweet potatoes, and plenty of fruits and vegetables; but I do not allow sugar, pies or cakes, and I advise against the use of saccharine, because it creates a taste for sweets. Several years' trial of a moderately high carbohydrate diet has convinced me of its usefulness. The individual is less likely to break his diet because he has a wider variety of palatable foods. Fewer calories are required because of the increased water content of the body. The average insulin requirement is higher at first, but after a few weeks it can be reduced. The incidence of acidosis and coma is less. Infections are tolerated better, because the carbohydrates increase glycogen reserve, and tissues have a better healing power. The diet is cheaper and less upsetting to the household. I urge that every diabetic, except those very mildly affected, weigh his food and keep a record of the kind and the amount. In the adult diet the calories required vary with the weight; I usually give

Read before the Fourth District Medical Society, Goldsboro, February 6, 1940.

¾ to 1½ grams of protein per kilo; 2 to 3½ grams of carbohydrate per kilo; 1 gram of fat to every 2 of carbohydrate. I first figure the total requirements of the diet, then the proteins, then the carbohydrate and fat. In children the protein requirement varies from 5 grams per kilo in early infancy to 2 grams per kilo at the age of fifteen. Carbohydrate requirements usually run from 2 to 5 grams per kilo, and the fat requirement is proportional. Exercise and long periods of sleep cause the blood sugar of children to be constantly changing. We must strive to keep the children well nourished, but slightly under weight.

The third phase of treatment is insulin. Its use is indicated when the diet will not control the disease. Exercise lowers insulin requirements, while the pituitary, thyroid and suprarenal glands may either inhibit the production of insulin or raise the blood sugar. In severe infections there is an increased demand on the body for insulin. The pancreas never completely loses its ability to form insulin. The normal adult requires 45 to 80 units daily. To get the maximum efficiency, insulin must be given continuously. This is where Nature scores highest, and protamine insulin higher than regular insulin. The oftener insulin is given, the smaller the number of units required. In severe diabetes and in cases complicated by infection and coma, frequent doses are required, as the average dose of insulin lasts from four to eight hours. The amount of insulin needed depends on the age, the diet, exercise, complications and infections. The maximum effect of a dose of insulin is obtained in an hour. Sansum claims that a diabetic can be given as much as 20 units a day in excess of requirements before symptoms of hyperinsulism appear. If only one dose is required, this is usually given before breakfast. Greater deficiency requires a dose before breakfast and supper, and perhaps at bed-time. The daily amount of insulin is usually divided into two doses, 5/8 being given before breakfast, and 3/8 before supper. If it is divided into three doses, they are 5/11, 3/11, and 3/11.

As a working basis insulin may be given in doses of 1 unit to every 2 to 3 grams of sugar excreted in the urine, varying with over-weight, and with complications or infections. Children may have a much lower blood sugar than adults without symptoms of insulin shock. Insulin reaction usually occurs three to five hours after injections, so there is always a greater danger of insulin shock in the afternoon and night. In insulin shock the suprarenal glands and the sympathetic nervous system attempt to relieve the shock through the production of adrenalin, causing glycogen to be discharged from the liver. One cubic centimeter of adrenalin given in insulin shock stimulates glycogen discharge from the liver, this being followed by a lowered blood sugar.

Allergic reaction to insulin is due to its protein content or to reaction of fluids. One may change from beef insulin to pork or sheep insulin, to crystalline insulin, or to protamine zinc insulin. The allergic person can be desensitized to beef insulin.

About 30 per cent of patients who start using insulin will be able to discontinue it after two years, and the urine will remain sugar-free.

Protamine Zinc Insulin

In 1933 Hagedorn and his associates started using protamine insulinate. Approximately two and one half years ago protamine zinc insulin became available for general use. Protamine zinc insulin is usually given in one dose one hour before breakfast each day, with a dose of regular insulin fifteen minutes before breakfast, if it is needed. The Danish method was to give protamine insulin in the evening and a small dose of regular insulin in the morning. Protamine insulin has the following advantages: Fewer injections are necessary after the dosage has become established; blood sugar is maintained at a more constant level; there is less danger of acidosis and coma; the patient is able to take more carbohydrates. The full effect of protamine insulin is not obtained for three to five days and we have to be careful that the effect of previous doses does not overlap. Insulin shock is less likely to occur and comes on more slowly with protamine insulin but it is more severe and requires more treatment. Unless the patient is given a large amount of carbohydrate, he is liable to develop another shock.

The diet with protamine insulin is better arranged: 20 per cent of the carbohydrates for breakfast, 40 per cent for dinner, and 40 per cent for supper. This allows more

carbohydrates at the time when the patient is getting more effect from the protamine insulin. An adult who has never taken insulin may be started on protamine insulin by giving him 15 to 20 units an hour before breakfast; a child, 6 to 8 units. The blood sugar should be estimated in three days; if it is elevated the protamine insulin should be increased from 2 to 10 units per dose. For a diabetic who has been taking insulin, the change to protamine insulin should be made by decreasing the morning and afternoon doses of regular insulin 2 units each per day, and increasing the morning dose of protamine insulin by this number of units. This gradual change lessens the danger of glycosuria and hypoglycemia. If the total dosage of regular insulin previously used was 30 units or less, the change to protamine insulin can be made suddenly by giving 1/2 to 3/4 the number of units of protamine insulin. Regular insulin should always be given in coma, acidosis and infections, because of its immediate action.

Hypoglycemia

The symptoms of hypoglycemia are sudden and acute hunger, sudden weakness, sweating, nervousness, emotional and mental disturbances—such as laughing, crying, confusion, aphasia—and later convulsions and death if no treatment is given.

Treatment of first importance is prevention by correct balance between diet, exercise and insulin.

Most patients who have taken insulin for any length of time have had mild insulin shock and know the early symptoms; so they take some form of carbohydrate immediately —usually sweetened orange juice, candy, banana, etc. Later, if shock is severe, glucose is given intravenously, and adrenalin or other stimulants are given as needed.

Symptoms of protamine zinc insulin shock are different from those caused by regular insulin. Symptoms are headache, weakness after slight exertion, mental confusion, numbness of tongue and lips, fatigue, heaviness of the extremities, amnesia.

The treatment of shock from protamine zinc insulin is essentially the same. However, shock is more likely to recur after first being relieved, so more carbohydrates, and carbohydrates which are more slowly absorbed—such as apples, bananas and bread —must be given every one-half to one hour until a glycosuria is provoked. Glucose should be given intravenously as needed. The protamine insulin should be decreased by 2 to 10 units in the next dose.

The Treatment of Diabetic Acidosis

Acidosis is an emergency. Two important points in its treatment are:

1. The relief of dehydration.
2. The increase of carbohydrate oxidation by the use of regular insulin.

Give at least 2000 cc. of fluids every twenty-four hours, chiefly as normal saline intravenously, and 10-20 grams of carbohydrates by mouth every two or three hours. This aids in carbohydrate combustion and also helps to prevent hypoglycemia.

The initial dose of insulin in acidosis depends on the amount of sugar in the urine, on the blood sugar, and on the CO_2 combining power. It varies from 20 to 100 units, and can be given intravenously if necessary. After that 10-30 units should be administered every two hours. The urine should be checked every two hours. As sugar in the urine decreases, the dose of insulin should be decreased. Blood sugar estimations are done as needed.

The diet at first should consist of orange juice, milk, oatmeal, gruel, broth, tea. When the acidosis disappears, the patient should be put on a diabetic diet, and the insulin doses rearranged.

If the stomach is distended gastric lavage should be done.

Circulatory stimulants should be given as needed.

Infections

Infections demand immediate control of the diabetic state. If there is abscess formation, it should be incised and drained as soon as possible. Twenty to thirty units of insulin should be given every two or three hours, with frequent estimation of sugar in the urine and blood.

Summary

Diabetes mellitus has been discussed from the standpoint of diagnosis, diet, insulin administration, and complications. The use of a relatively light carbohydrate diet is advocated.

THE PRESENT STATUS OF ANESTHESIA

ARTHUR C. AMBLER, M.D., F.I.C.A.

ASHEVILLE

The advent of new drugs and new equipment, and the development of new techniques within the past few years has increased research and study of anesthesia. For fifty years or more little or no work had been given to this extremely important part of medicine. At present there are many able workers in well equipped laboratories and clinics carrying on investigations, studies, experimentations, for better anesthesia. The ideal anesthetic agent has not yet been found.

Anesthesia has developed today into a highly specialized field engaged in by physicians who have been trained as experts and who by their training are qualified to choose and administer a particular type of anesthesia to each individual case. This branch of medicine has grown so much and become so important that within the past two years it has been recognized as a specialty. Physicians who are members of the American Society of Anesthetists, and of the A. M. A., and who have qualified by meeting the requirements can now be certified as specialists in anesthesiology.

At present the demand for expert anesthetists far exceeds the supply. The larger medical centers, clinics, and hospitals have been taking what men were available. These men have had a two or three years' fellowship in anesthesia, after serving two-year internships. They become heads of the department of anesthesia in their respective hospitals or clinics and have the responsibility of training residents who wish to major in anesthesia. For the older physician interested in anesthesia, there are several schools and hospitals offering post-graduate courses lasting a few weeks to a few months. It is from this source that the smaller towns and communities are getting their anesthetists.

The economic side of the practice of anesthesiology is a difficult one and apparently is becoming more complicated. When a physician becomes identified as a specialist in any field, it is not long before his work is limited to that field. This is particularly true of the anesthetist. To become certified in anesthesiology, the physician must limit his practice to anesthesia. That is why men who have taken up anesthesia have gone to large centers. The man who practices anesthesia in small centers and does not care to be certified (that is, limit his entire practice to anesthesia), but expects to do some general work on the side, will surely be disappointed. His general work gradually disappears and leaves him dependent entirely upon anesthesia. It is extremely difficult now to increase the small fees set by family doctors, the occasional anesthetists, and even technicians for more than fifty years. Since the specialist is doing only anesthesia, his fees are necessarily higher than those established by custom. The totally inadequate fees allowed by the hospital care associations, insurance companies, industrial commissions, and states and counties for indigents also help to deny a community the services of this modern branch of medicine. It is only with the cooperation of the surgeon that the anesthetist in an average town can survive. The anesthetist expects to do the service and charity cases along with his surgeons. He has to accept the socialized group fees as they are dealt out, but he also expects proper remuneration from the private cases—based on the hazard of the operation, type of anesthesia used, time consumed, and ability of the patient to pay.

In discussing anesthetic agents and their administration, it is not the purpose of this paper to attempt to tell the reader what he should use or how he should use it. It would be absurd for an essayist to instruct any assembly along such lines when he is unfamiliar with local conditions. But it is my purpose to discuss briefly some of the habits, ideas, problems, and procedures as they exist elsewhere and as I see them, in the hope that they may be of interest to you.

Inhalation anesthesia continues to be most universally used. Spinal anesthesia is becoming more and more popular, owing no doubt to a better understanding of it. Intravenous anesthesia has become remarkably popular in some localities and has not taken at all in others. The use of regional anesthesia, with the exception of spinal, has neither increased or decreased for several years.

The closed method of inhalation anesthesia —that is, rebreathing with the carbon dioxide absorption technique—is now univer-

Read before the Guilford County Medical Society, Greensboro, February 1, 1940.

sally used. However, the open method remains the safest for the occasional anesthetist and for the person who has not been trained. The chief advantages of the closed method are as follows:

1. The expense of anesthetic mixtures is reduced about 75 per cent.
2. Breathing is quieter during anesthesia, making abdominal surgery less difficult and conserving the patient's energy.
3. The patient's body heat and moisture are conserved.
4. Danger of explosion and fire is reduced.
5. Postoperative sequelae, such as nausea and vomiting, are lessened.
6. Minute-to-minute control of the patient is possible.
7. The patient can be given any amount of oxygen that is indicated.

The main disadvantage is that the patient is not breathing a normal atmosphere. It is this point which has inspired workers to continue their search for an ideal anesthesia. Dr. Ralph Waters at the University of Wisconsin recently stated that we will not have an ideal anesthesia as long as the patient is not breathing atmosphere to which he is accustomed. Nevertheless, closed ether is much more satisfactory to patient, surgeon, and anesthetist than open ether, even though there is normal atmosphere with open ether. We are trying at present the use of compressed air as a diluent and carrier. I have also used the inert gas helium, only to find that it is easier to allow the patient to inspire normal air occasionally and to expire into the breathing bag. This will keep some air with its nitrogen and other inert gases in the mixture. It may be coincidence, but our atelectatic cases have been rare. It is reasonable to assume that with our rapidly absorbable anesthetic mixtures, together with the disappearance of nitrogen from the mixture (which eventually occurs in a closed circuit), we are inviting atelectasis by the absence of any sustaining inert gas.

It is highly important that a free airway be established at all times, not only for good anesthesia but for the prevention of atelectasis and the building up of a high carbon dioxide content. Any number of artificial pharyngeal airways are on the market and any one of them will suffice as long as it will establish a free passage. Intra-trachael catheters of course offer the best artificial airways. They are used routinely in pneumonectomies, lobectomies, and in any thoracoplasty where there is an abundance of secretion or sputum. A free airway is then always patent, aspiration is easily accomplished and pressure can be applied at a second's notice. As a rule, intubation is done in kidney cases and spine fusions, and is often necessary for short, thick-necked individuals.

The anesthetist's first duty is to the patient, and he must exercise every precaution, anticipate every untoward change and be prepared to cope with any situation. For example, blood pressure readings should be taken at regular intervals during all major surgery and in the poor risks. If the blood pressure begins to fall something must be done about it then. I have often wondered why the College of Surgeons stresses the importance of writing histories, examinations, consultations, progress notes, etc., and yet has only a small place allotted on their history sheets for the most important hour of a patient's stay in the hospital. The interested anesthetist will see to it that the hospital has anesthesia charts. Most anesthetists make personal records for their own files, and if they are that important to the anesthetist, they should be that important to the hospital. They are valuable not only for the protection of the patient but for the protection of the surgeon, the hospital and the anesthetist.

With the increased use of explosive anesthetic agents there have naturally been several explosions with their resultant publicity. The American Society of Anesthetists began an intensive investigation about two years ago, and I believe their committee is still functioning. They investigated every explosion or fire for the past twenty years about which they could obtain any information. The committee has reported that a large percentage of the explosions were preventable; that the types of explosive or igniting agents included open flame, cigarettes, high frequency current, cautery, motor on vaporizer, static and x-ray. There were no explosions while a *complete rebreathing* anesthesia was in progress; this of course included ether and oxygen, and cyclopropane. The explosions from *static* occurred immediately before or immediately after the anesthesia. Some of the causes of static were: removal of woolen blanket from

patient; touching of gas machine or patient's face by some person other than the anesthetist; removal of cloth covering from machine, etc. The committee drew the following conclusions:

1. "That explosible anesthetic agents with cautery or high frequency current in head, mouth, and neck operations is a bad combination.
2. "That open armature motors and open switches on ether vaporizing machines should be discontinued.
3. "That complete rebreathing anesthesia, provided there are no leaks around the face piece of machine, *can* be used in in presence of high frequency, x-ray, and cautery. But the possible escape of inflammable gas before, during, or after an anesthetic in an x-ray room makes the use of these gases very dangerous.
4. "That the use of inflammable gas with *in*complete rebreathing in the presence of an igniting agent should be condemned.
5. "That static was the most frequently mentioned igniting agent.
6. "That in order to eliminate static more experimental work must be done on room humidity and the question of grounding."

There are two schools on the question of grounding. I prefer to have no ground wires or chains attached to machine, operating table, patient, or myself. I believe a ground wire will certainly invite a static spark more quickly than if no ground wire is present. An unseen broken ground is certainly dangerous. It is very simple and easy to maintain a like potential between anesthetic machine, patient, operating table, and anesthetist by the touch of the hands.

There have been three deaths from explosions out of two and a third million anesthesias, and from two to four explosions out of each one hundred thousand anesthesias.

It is the purpose of this paper to give only a brief outline of the anesthetic agents and their relative values.

Divinyl ether (marketed commercially as Vinethene) is a new inhalation agent which has stood a thorough clinical investigation and is now accepted. It is highly volatile and produces anesthesia about as quickly as gas. The patient reacts from it about as quickly as from gas. There is a wide margin between the blood concentration necessary for anesthesia and lethal dosage, so that the agent is fairly safe. It is to be used only in short operations. It is especially indicated in extraction of deciduous teeth in children, in obstetrics, fractures, painful dressings, incision and drainage, etc. Because divinyl ether is about four times as potent as ethyl ether and because of its quick action, constant observation must be maintained. This agent is being used by a large number of men but, as yet, has not been universally adopted.

Ethyl chloride as a general agent, in my opinion, has but two uses or indications. First, in doing a paracentesis of an ear drum on a child in the home; and, second, in the extraction of deciduous teeth. It must only be used for induction. When the child takes the first breath in the surgical anesthesia stage, *that* is the indication to remove the anesthetic agent entirely and immediately.

Chloroform is still used in England and in Europe, but in this country its use is limited. It is still employed by some obstetricians with apparent safety because of the small amount used and the short duration. Very little is used in general surgery—and that should be condemned. It will probably be used for some time to come, and safely, in obstetrics in the rural districts where the operator does not have access to the services of an anesthetist.

Ether remains our safest and most popular inhalation agent. It is safest on account of the wide margin between surgical anesthesia concentration and lethal concentration. It is popular because of the ease with which it is given by anyone, regardless of experience or training, and because it is our best relaxing agent. The fact that closed ether (that is, ether with oxygen, using the carbon dioxide absorption technique) has been universally adopted by physician anesthetists, does not mean that open drop ether is to be condemned. However, the family doctor who is referring the patient should not embarrass the surgeon by asking to be allowed to give the anesthetic. The surgeon can do his best work only when he is working with the team to which he is accustomed. The surgeon has the right—legally, ethically, and morally—to choose his anesthetist.

The indications, contraindications, and the

use of ether are familiar to all. Those of us who are using cyclopropane are using less ether than ever before. We still use ether in long cases, abdominal cases, tonsillectomies, etc., and we add ether to our gaseous mixtures for relaxation. We use it whenever there is a respiratory depression, as cyclopropane is not a respiratory stimulant.

We have not the fear of using closed ether with tuberculous cases as we did of using open ether. Churchill in Boston uses closed ether for his thoracoplasties. Ether today occupies the unique position of being the one and only reliable stand-by. When all other anesthesias fail, ether can always be relied upon.

Nitrous oxide still commands a definite place among anesthetic agents. It is non-explosive and is therefore indicated when the cautery or electro-surgical units are to be used about the head or neck, or for cauterizing the lung in lung abscess. It is valuable as an inducting agent for ether and ideal as an analgesia in the first stage of labor. With the exception of these indications, the writer has not used nitrous oxide in several years. Because it does not have good relaxing properties, some ether is usually added to it; and nitrous oxide, ether and oxygen make a powerful explosive mixture.

Ethylene is explosive. It allows a greater percentage of oxygen than nitrous oxide, and gives a little more relaxation. Ethylene has been supplanted entirely by cyclopropane.

Clyclopropane has been in general use about seven years. During this time it has earned for itself the top rank in gaseous agents. It has been a godsend to us for our poor risks, the tuberculous, the aged and feeble, and for those patients in whom we want the least possible after-effects.

Cyclopropane is given with 50 to 80 per cent oxygen, which insures a slow pulse, slow respirations, and a good color. It has a much greater relaxing power than nitrous oxide or ethylene, but not quite so great as ether. The patient usually reaches the surgical stage of anesthesia in about three minutes without the usual manifestations of the excitement stage seen with ether. When the anesthetic is stopped, the patient is fully awake in five to ten minutes, usually with little or no vomiting—certainly without the nausea and vomiting frequently caused by ether. Only three contraindications are known to the writer. These are operations on head or neck when electro-surgical units are to be used, auricular fibrillation, and after administration of adrenalin. My youngest patient was two months old and the oldest was ninety-five. In more than four thousand cases, I have found only one case that could not be anesthetized. There have been no fatalities and no unusual postoperative complications, with the exception of six postoperative *pseudo* shock cases. The pseudo shock patient does well during the operation but in about ten minutes after he has been returned to his room, he goes into what looks like a bad surgical shock. This lasts for one or two hours, and then the patient regains his composure and becomes perfectly normal. This condition is due apparently to the sudden withdrawal of such a high oxygen concentration, which upsets the acid-base equilibrium. For this reason, I have been using air (and occasionally some helium) to aid in diluting the high percentage of oxygen. There have been no pneumonias, and atelectasis has been a rarity. Ether is usually added (10 to 20 cc.) in abdominal work for relaxation.

Cyclopropane is particularly indicated in thoracic surgery, especially in the tuberculous patient, on account of the high concentration of oxygen. It is ideal in obstetrics, for use in caesarean sections and during the second stage of labor. The baby is delivered pink and usually cries immediately. It is used in sections without the aid of ether. As yet, the gas has not been found in the baby's blood.

The dread is taken out of the suprapubic prostectomies in old men by the use of cyclopropane. It is an ideal anesthetic for pinning the hip with a Smith-Peterson nail in elderly people. These of course are only a few of the instances where the gas is well suited.

The premedication is about the same as that to which we have been accustomed with ether; however, large doses of morphine must be avoided, for, as was stated, cyclopropane is not a respiratory stimulant. The barbiturates seem to go well with the gas. Avertin given in 70 to 80 mgs. per kilo or less makes an ideal basal anesthetic for cyclopropane. Paul Wood of New York states: "Avertin and cyclopropane is the nearest approach we have to an ideal anesthetic."

Carbon dioxide is a much discussed subject in anesthesia. A patient can build up

a high CO_2 content before it is recognized, especially with the rebreathing technique. The soda lime may have lost its usefulness, or the filter valve may be faulty. Even with open ether the patient may not get the proper exchange of gases, owing either to a faulty airway or to the position on the table.

The use of medicinal CO_2 for resuscitative purposes is to be condemned. It is still used by some nurses, and even by some obstetricians and pediatricians, on new born infants who fail to breathe properly. Actually the baby has more CO_2 at the time than he can cope with, and is building up more every minute. He is probably anesthetized from his own CO_2. The practice of "blowing out" a patient by the use of CO_2 after an anesthetic is not recommended, because of the possibility of inspiring foreign material, saliva, or mucus, and the chances of promoting acidosis.

Helium is being used to a small extent as a part carrier in obstruction cases and as an inert gas.

Intravenous anesthesia is becoming more popular each year. It has many advantages during certain procedures and there are many distinct indications for its use. Pentothal-sodium seems to be gaining more friends than evipal. It is our experience that pentothal acts more smoothly and that the patients seem to behave better. We use intravenous drugs only when specifically indicated, and not routinely.

Avertin by rectum has largely supplanted ether and paraldehyde by rectum. Although avertin occasionally produces surgical anesthesia, it should never be given for this purpose, but only as a basal anesthetic. It takes away the horror of going to the operating room, requires less anesthetic agent, and gives a quiet prolonged sleep after the operation. We are using it routinely as a basal in all our thoracoplasties. After running a series of fifty cases with avertin and fifty cases without, we came to the conclusion that the patients with avertin got along better.

Avertin is particularly indicated in nervous women and children. With local anesthesia it solves the problem of what to use in intrapleural pneumolysis. I have had no accidents with this drug and no untoward sequelae which could be attributed to its use.

As stated previously, spinal anesthesia is becoming more popular — probably because we have a better understanding of its use and are not getting the bad results we did a few years ago. There are still some surgeons and anesthetists who do not avail themselves of the advantages that spinal anesthesia offers; while others use it too recklessly, without proper understanding of its dangers and limitations. When spinal anesthesia was first introduced, its use was advocated in the bad heart cases and in poor risks. Now we know that the patient must be in good general condition. The cases must be selected.

The two greatest dangers in spinal anesthesia are respiratory arrest and a fall in blood pressure. The major problem is the control of blood pressure, or rather the avoidance of any means that might cause a fall. This resolves itself principally into the control of the anesthetic level.

The vasomotor system which controls the tone of the blood vessels throughout the body emerges from the first dorsal to the third lumbar vertebra. An anesthetic agent introduced and remaining below the third lumbar will have no effect upon the blood pressure. As it ascends, more of the white rami are blocked, with corresponding loss of tone in their relative vessels. When the first thoracic segment is reached, all white rami have been blocked and all blood vessels have lost their tone. At the same time, the cardiac accelerators which emerge in the first four or five thoracic segments have also been blocked. This decreased cardiac efficiency has its effect in the fall of blood pressure[1].

The same blocking occurs with the thoracic nerves, leaving the phrenics to carry on the work. If the anesthesia progresses further, the phrenics too are blocked and respiration ceases. Only efficient artificial respiration with oxygen until the block wears off can save the patient.

The anesthetic level can be controlled in three ways: by the site of the puncture, by the amount of fluid withdrawn and then replaced, and by gravity. The specific measurement of the withdrawn spinal fluid and of the rate with which it is replaced is the most reliable method. Those of us who use this method no longer put the patient into the deep Trendelenburg position as was formerly done. If a patient is put into the Trendelenburg position and the anesthetic is hyperbaric, it will travel an indefinite way toward

1. Maxsom, in Anesth. and Analg., March-April, 1938.

the cranium. If it is hypobaric, it will go the other way, with an inadequate anesthesia as a result.

Ephedrine is given before injection of the agent to help maintain blood pressure. A 22 gauge needle with a short and sharp bevel is preferable for making the puncture. The patient is kept horizontal for twenty-five minutes at least.

The greatest of care must be exercised in moving the patient, as for instance in using the lithotomy position.

The surgeon must not be rough while working in the abdomen. A rough surgeon is a contraindication to spinal anesthesia. The patient must not be moved on to the stretcher for at least forty-five minutes after injection, regardless of the length of the operation. The patient should not be left alone or in the care of a nurse, but should be in the care of a physician while on the operating table. Oxygen should be immediately available, as well as supplementary anesthetics.

I use novocain crystals for most procedures —never more than 150 mgs.—, and pontocain is occasionally used for long procedures. In moribund cases, 50 mgs. of novacain supplemented with cyclopropane is quite satisfactory.

Concerning blocks, I will only mention that caudal and transacral blocks are now being replaced by low spinals. Novocain in the fifth lumbar space is easier to give, requires less time, gives better anesthesia, and has less general effect on the patient.

Summary

The specialty of anesthesia has been recently recognized and certification is now possible; but the practice of the specialty, outside of large medical centers, presents economic problems.

Great advancement has been made in recent years in perfecting technique and anesthetic agents. For many reasons, ether remains the safest and most popular anesthetic agent, particularly in the hands of one not especially trained in anesthesiology. Cyclopropane, in the hands of the expert, is rapidly replacing other gases. Various types of anesthetic agents, their administration, indications and contra-indications for their use are discussed.

SURGERY IN DIABETES

W. H. SPRUNT, JR., M. D.

WINSTON-SALEM

Diabetes present over a period of years, even if fairly well controlled, results in varying degrees of arteriosclerosis, with attendant complications. It was a realization of this fact that led to Joslin's statement, "A diabetic patient is as old as his age, plus the duration of the disease."

Carelessness and incompetence in the treatment of diabetes may result in continued glycosuria, and possibly coma. Diabetes will increase the severity and incidence of infection, and may interfere with the healing of surgical wounds. On the other hand over-zealous treatment may precipitate insulin shock with all of its attendant dangers. Experience suggests that in controlled diabetes a clean wound will heal in a manner comparable to one in a non-diabetic of the same age. On the other hand diabetics are more susceptible to infection. Tissue necrosis is more frequently seen, and when present is apt to be more extensive. Infection makes diabetes more difficult to control, and the diabetes in turn makes it harder to eradicate the infection. Pneumonia is more prevalent following upper abdominal operations in the diabetic than in the non-diabetic patient. Disruption of wounds is more common in diabetes. Diabetics do not stand multiple operations well. In cancer diabetes is a desperately severe complication.

When patients come to operation for elective surgery, such as goiter, hernia, etc., where there is no particular emergency, the patient should go to the operating table well fed, his liver stored with glycogen, acid free, and with no more than a trace of sugar in the urine. Here the services of an expert internist are indispensable. Pre-operatively the patient under his care will be prepared so as to obviate as far as possible acidosis and its complications.

Such preparation usually includes, among other things, the giving of at least 150 grams of carbohydrates in the twenty-four hours preceding operation, the control of glycosuria by small doses of insulin given at short intervals and by adequate fluids—2500-3000 cc.—given until about four hours before

Read before the Eighth District Medical Society, High Point, November 2, 1939.

operation. Where this preparation is possible, the patient might be called the minimum diabetic risk. Even so it must be recognized that these patients offer a higher operative risk than similar patients without diabetes. This is especially true after fifty years of age, when the diabetic is apt to have vascular changes which complicate the picture.

For the diabetic who comes to the operating table on account of a surgical emergency, the outlook is not so good. Here the scope of the operation may have to be limited because of the patient's condition. Intravenous sodium chloride and glucose plus insulin are of help, but it is often a matter of fine judgment just how much the patient can stand.

Much attention has been paid in the past few years to the diabetic patient whose symptoms simulate those of an acute abdominal emergency. The cause of this is still open to debate. Many think that it is due to lack of available sodium chloride. At any rate, we are all familiar with the diabetic patient who comes in complaining of generalized abdominal pain, nausea, vomiting, and spasm of the abdominal muscles. On examination we may find fever, leukocytosis, glycosuria and possibly acidosis. The diagnosis can usually be made by a history of diabetes, and by the fact that the symptoms, instead of localizing, become more generalized. Insulin will quite often give relief in a few hours. When there is reasonable doubt that the condition is due entirely to diabetes, it is best to consider exploratory laparotomy. This is rarely necessary.

In diabetic children who have appendicitis, the attack is apt to be more severe than in the non-diabetic, and it is not so apt to subside. In the definitely acute attacks, early operation is advisable. In the child who has diabetes and a history of repeated, even though mild, attacks of appendicitis, it is much better to get the appendix out during the interval than to run the risk of a fulminating attack when it may not be possible to get the patient in good condition for operation.

In operating upon the biliary tract in diabetics, indications for operation should be very clear-cut. The so-called non-calculous gallbladder patient with vague attacks of indigestion, etc., is probably better off without operation. The patient who is known to have stones is somewhat in the position of the child who has recovered from an attack of appendicitis. We know that in all probability he will have trouble sooner or later, and if he has been bothered with the gallbladder at all it is probably best to prepare him and operate without waiting for the attacks to become severe. It is the general opinion that attacks of acute cholecystitis in the diabetic are not so apt to subside as in the non-diabetic. For this reason the patient with an acute cholecystitis must be watched very closely and, if there is not prompt and marked improvement, operation must be considered.

In accident cases it must be remembered that the presence of diabetes renders the walls of the vessels more susceptible to trauma. It may also delay healing in fractures.

The most dangerous infection requiring surgery in the diabetic is apparently the carbuncle; the most common, gangrene of the extremities. In treating carbuncles it should be borne in mind that the average mortality is five per cent, and that most of the mortality comes in the cases of large carbuncles. As all large carbuncles are at one time small, it should be a simple matter to reduce the mortality by early and adequate treatment. By this is meant the application of heat, x-ray, etc., to help localize the carbuncle, and, of course, general treatment for the diabetes. Crucial incision under general anesthesia, usually made with the electrocoagulation unit, is probably the best. The edges should be undermined. The wound may be dressed with Dakin's or azochloramid solution.

In gangrene of the extremities, the important factor is not so much the severity of the diabetes as the state of the blood vessels supplying the part. In infections of the lower extremity not requiring radical surgery—for example, in a foot where the circulation is adequate as shown either by pulsation in the dorsalis pedis or by good collateral circulation — gangrene may be present, but it is secondary to infection and local thrombosis and not to primary arterial occlusion. These cases frequently show marked paresthesias and at times anesthesia. It is usually safe to remove toes under these conditions. If the infection is not localized, amputation of a toe is dangerous, and, if pain in the part has been severe, amputation is usually not suc-

cessful. Only rarely is it permissible to amputate a toe in a pulseless foot.

As to choice of amputation in gangrene of the extremity, amputation through the upper third of the leg is done in: (1) presence of extensive infection of the foot, plus severe diabetes; (2) septicemia secondary to gangrene; (3) a patient so debilitated that primary healing is not expected. Amputation through the upper third of the leg is not done if: (1) the general condition of a patient precludes the use of an artificial limb; (2) popliteal pulsation is absent; (3) lymphangitis above the ankle is present.

Indications for radical amputation are: (1) uncontrollable spread of gangrene to the extent of destruction of the weight bearing portion of the foot; (2) spreading infection that cannot be controlled by incision and drainage. Supracondylar amputation is probably the most successful of major amputations. It is usually done without tourniquet and without drains.

In deciding upon the site for amputation, we must consider the pathological process, the level of effective collateral circulation, and the prosthetic requirements. The patient's ability to walk, however, after the amputation is performed must not be given too much consideration. If the amputation has to be done above the toe, the next most logical place is the middle of the upper part of the leg. If it must be above this, the supracondylar site is generally considered better than the knee-joint.

The average age of patients coming for amputation on account of gangrene is sixty-two years. The mortality varies from 20-40 per cent. The commonest cause of death is septicemia. In amputation for gangrene, local infiltration of novocain and tourniquets are both contraindicated. Spinal anesthesia is probably safest. In the choice of an anesthetic various factors must be considered. Ether has been shown to cause glycosuria and acidosis. However, where relaxation is needed it is frequently used in spite of its dangers. Chloroform is too toxic and should not be used. Nitrous oxide, ethylene and cyclopropane all are relatively safe. For the upper abdomen, a combination of spinal anesthesia and one of the gases, or abdominal wall block plus one of the gases is best. If nitrous oxide is used care must be observed not to allow the patient to become cyanotic. Evipal is suitable for short operations, where too much relaxation is not necessary. Procain must not be used in amputating a toe, nor as anesthesia for a carbuncle. Spinal anesthesia, novocain 50-75 mg., is usually suitable and safe for amputations. Avertin is dangerous in the presence of cardiovascular diseases.

In the preliminary preparation for operation it must be remembered that diabetics are usually more sensitive to drugs, and the dose of morphine should be governed accordingly. After amputation it must be remembered that the tolerance for sugar immediately rises and the dose of insulin must be watched carefully.

THE PRIVATE MEDICAL, DENTAL AND NURSING PRACTITIONERS

J. BUREN SIDBURY, M.D., F.A.C.P.

WILMINGTON

Never in our history has there been an opportunity to accomplish more medically for our people than there is today. The public is becoming better educated along medical lines than ever before. This fact is a definite challenge to the physician, dentist, hospital superintendent, nurse and public health man to unite forces and see that all of our people get all medical care that is needed, as well as education on medical subjects. Our State Board of Health is the head to which we look for plans and policies for the good of our people as a whole. The county health department is our first lieutenant, whose duty it is to inform the public and the local profession of health measures that will benefit the local community. The proper leadership in these positions will accomplish much toward executing the plans to be carried out.

Nurses

Probably the most important cog in the wheel of progress of health education is the nurse. The nurse has an approach to the public which is different from that of the physician. She is admitted into the home primarily as a skilled workman; but she is also taken in confidence by the people, and her advice is sought and respected. For this reason the nurse is a most potent factor in

Read before the North Carolina Public Health Association, Greensboro, May 1, 1939.

health education, and she should be especially trained and instructed along this line. Many disputed or debated medical procedures will be discussed in her presence and her opinion asked. She must be in a position to answer these questions intelligently. It is our duty as physicians, and the duty of training schools and hospitals to see that she is properly instructed.

Parent-Teacher Association

This organization is doing much in preventive medicine and wishes to do more. They are willing and glad to have the physician advise them how they may render more effective service to the school child. It is our place to advise and to cooperate. That much splendid work is being done is shown by the report of the North Carolina Congress of Parents and Teachers for 1937. A summary of this report of 4270 preschool examinations is as follows:

Number of defects discovered, 4,284; number corrected, 1,435, or 33 per cent.

Children not protected against diphtheria, 2,128; subsequently protected, 868, or 31 per cent.

Children not protected against small pox, 2,978; subsequently protected, 1,955, or 66.6 per cent.

Children referred to physicians, 1,748; number consulting a physician, 567, or 32.4 per cent.

Children referred to dentists, 1,599; number consulting a dentist, 656, or 41 per cent.

From this we see at a glance that more follow-up work is necessary to obtain the greatest good from these examinations. The accomplishment of this task falls heavily on the shoulders of the public health nurse. It can not be done by the physician, lest his motive be misinterpreted. With the exception of small pox vaccination we can see from this report that less than a third of these recommendations were carried out. The small pox vaccination percentage was higher only because, by law, vaccination is required before admission to school is granted. The law in North Carolina now requires a diphtheria immunization certificate for admission to public schools.

We are proud to be the first state in the Union to have a compulsory diphtheria immunization law. Other states are looking to us and will follow in our footsteps. Now that we have these laws I most earnestly urge the cooperation of the medical profession and laity in carrying them out.

Many schools in North Carolina, with the assistance of the local health office and physicians, annually give tests for tuberculosis and diphtheria. The results of these tests are sent to the parents with instructions to consult their family physicians.

In the twelve years from 1925 to 1938, 346,183 turberculin tests were given to school children in North Carolina by the extension department of the North Carolina Sanatorium. Of this number 57,923 (16.7 per cent) gave positive reactions. 49,810 of the positive reactors were given x-rays of the chest, and 6,309 (12.7 per cent) were diagnosed as having tuberculosis.

Some four or five years ago the "repeaters" in two large schools in New Hanover County were examined. Stool examinations were made and it was found from this study that some 25-30 per cent of these "repeaters" had intestinal parasites. The parents were advised and proper treatment was given.

Maternity and Infancy Clinics

In North Carolina during the year 1937 there were 429 women who died as a result of pregnancy or childbirth. They included 162 deaths from toxemias of pregnancy, 97 from infection, 61 from hemorrhage, and 109 from other causes. Twelve states had a higher maternal mortality.

The Social Security Act has made available to the states money to cope with this situation. Our state, under the supervision of Dr. G. M. Cooper of the State Board of Health, has established one hundred and sixty maternity and infant centers in forty-five counties in the state. Local physicians are conducting these centers, for which service they are being paid a nominal fee. While the work is only in its infancy, everyone connected with it is most enthusiastic about its achievements and possibilities. This is another demonstration of what may be done by the cooperation of the Health Department, the physician, the nurse and the public.

A similar procedure is being carried out in the venereal disease clinics that are being operated in the different counties in the state by the State Health Department with the aid of Federal, State and Reynolds funds. Local physicians are cooperating in every way.

There were born in North Carolina last years 79,080 infants. 64,566, or more than four fifths of them were born on farms or in towns or small cities; less than a fourth (14,415) were born in cities of 10,000 or more population. At a glance we may see where prenatal care will yield the greatest returns. It is the earnest desire of our State Health Department and of the general practitioners of the state to see established in each and every county of the state one or more maternity and infant welfare clinics, to which shall be assigned an obstetrician and a pediatrist as consultants, if not as regular attendants.

It goes without saying that the nursing personnel of these clinics is of equal importance. All pregnant women must be advised of the importance of medical examination and medical supervision from the beginning of pregnancy—not at the end. They must be impressed with the potential dangers of pregnancy and made to realize the importance of proper medical supervision. Upon the shoulders of the Public Health Nurse will rest the responsibility of putting this information across to the expectant mother and of seeing that regular attendance to the doctor's office or clinic is kept up. She has the duty of finding these cases and of seeing to it that they see the doctor or attend the clinics regularly. She can be of great help to the physician in selling the idea of periodic physical examinations and regular follow-up treatments, the importance of the Wassermann test, and the importance of early examination in cancer cases and heart disease.

These clinics could be sponsored jointly by the County Medical Society and the local Board of Health. The doctors in attendance at the clinic could be designated by the County Society. A reasonable fee for holding these clinics should be paid the physicians. Through them more doctors would become interested in prenatal care, more people would become informed on this subject, and more expectant mothers would avail themselves of these services.

In Wilmington a clinic for the indigent is conducted by the Assistant Health Officer. He also makes calls to the homes of the indigent. The duties imposed on him are sufficient to keep three physicians busy if the work were well done. If this clinic were moved to the hospital, much better work would be done at a lower cost. Both institutions are supported by the city and county, and at present there is a duplication of effort, in that both places run a clinic each day. In such cases I strongly urge a closer cooperation between the hospital and the local health department. More efficient care and treatment of patients would be carried out and the hospital would offer better training and teaching facilities to its interns and nurses.

Dentists

Of equal importance in our health campaign is the dentist. Dental care and oral hygiene are most important factors in the health of a growing child. Many cases of malnutrition can be traced directly to bad oral hygiene and abscessed teeth. The child with carious and abscessed teeth will eat poorly. He will not gain weight and strength at the normal rate. This in turn will be reflected in his mental progress as shown by inattention and poor grades in school.

From the report of the Division of Oral Hygiene in North Carolina we see that a large majority of the school children need dental care and oral hygiene. Last year $35,000 was allotted for this service, which is being conducted by a staff of thirty dentists. They are doing a good piece of work, but they cannot possibly do the work for all the school children who need dental care. We as physicians, nurses and teachers must urge the parents of those who can to consult their dentist twice each year.

The task before us is a big one. The cooperation of all of us is necessary. I earnestly request that all of us put our shoulders to the wheel and do our best for our children.

Imperturbability. — Imperturbability means coolness and presence of mind under all circumstances, calmness amid storm, clearness of judgment in moments of grave peril, immobility, impassiveness, or, to use an old and expressive word, phlegm. It is the quality which is most appreciated by the laity though often misunderstood by them; and the physician who has the misfortune to be without it, who betrays indecision and worry and who shows that he is flustered and flurried in ordinary emergencies, loses rapidly the confidence of his patients.—Sir William Osler: Aequanimitas.

REPORT OF HIGH POINT PELLAGRA CLINIC*

FREDERICK R. TAYLOR, M.D., F.A.C.P.

HIGH POINT

The High Point pellagra clinic, the first of its kind in North Carolina, opened the first week in April and closed on October 31, 1939. As pellagra gives practically no trouble in the winter, it was considered unnecessary and unwise to keep the clinic open in those months. For a short time the clinic operated two mornings a week. After most of the patients had been examined carefully, one morning a week was sufficient to care for them. The High Point Chapter of the American Red Cross acted as a clearing house for the patients, arranging for them to be brought to the clinic and taken back home. It also furnished nicotinic acid and yeast, carried on valuable social service work, and paid the clinician a nominal fee of $5.00 per clinic session. The Health Department of the City of High Point furnished rooms for the work, a public health nurse to assist in the clinics, and facilities for routine chemical urinalyses.

One hundred and fifty-seven patients came to the clinic. Of these, 109, or 69.43 per cent, showed present evidence or gave a past history of pellagra. Those with a past history of a pellagrous eruption were considered candidates for preventive treatment. Forty-eight, or 30.57 per cent, were considered non-pellagrous. In these cases the following diagnoses were made:

Alkalosis	1
Arteriosclerosis	2
Diabetes mellitus	1
Eczema (squamous)	1
Epidermophytosis	1
Goiter, toxic	1
Gynecologic and urologic conditions	3
Menopause	1
Methemoglobinemia (chronic acetanilid poisoning due to prolonged use of B-C headache remedy)	1
Morphine addiction	2
Peptic ulcer	2
Psoriasis	1
Purpura	1
Scabies	2
Sunburn	1
Syphilis	2
Tinea versicolor	1
Tuberculosis of spine and possibly of skin	1
Undetermined	23

*Sponsored by the High Point Chapter of the American Red Cross and the Health Department of the City of High Point.

The large number of undetermined diagnoses is due to the fact that we were not attempting to operate a general diagnostic clinic.

Of the 109 pellagrins, past and present, 9, or 8.26 per cent, had had no recurrence of symptoms within five years and were considered not to need treatment unless there was evidence of another recurrence. Eleven, or 10.9 per cent, who had a mild pellagra were severely ill with some other trouble and were referred to their physicians for treatment. Of those under treatment 16 stopped coming for various reasons.

Age. The youngest patient was two years and nine months old. The oldest pellagrin was seventy-nine. The average age of the pellagrous patients was 42.7 years. Taking age groups by decades we find the following representations:

Age Group	*Number of Patients*	*Percentage*
1-10 years	7	6.42
11-20 years	8	7.34
21-30 years	8	7.34
31-40 years	35	32.11
41-50 years	18	16.51
51-60 years	16	14.68
61-70 years	13	11.93
71-80 years	4	3.67

Sex. Sixteen, or 14.68 per cent, were males; 93, or 85.32 per cent, were females.

Race. Three, or 2.75 per cent, were colored; 106, or 97.25 per cent, were white. The effect of sunlight is one of the determining factors in producing active symptoms of pellagra; and as the colored race is much less affected by exposure to strong sunlight than is the white, the incidence of pellagra is proportionately higher in white people. Dr. M. B. Davis, an able colored physician with an extensive practice, tells me he has seen only two undoubted cases of pellagra in the negro race in a period of four years. The cases reported by Spies from Birmingham, Alabama, suggest a higher relative incidence among the negroes in that locality, perhaps due to exposure to more intense sunlight. I also believe, though I have no figures to prove it, that in the more severe type of pellagra which was rife twenty-five years ago, there was a higher relative incidence in negroes than there is today, when pellagra has become much milder.

Occupation	Number of Patients	Percentage
Housework	47	43.12
No occupation	28	25.69
Cotton mill worker	16	14.68
School child	7	6.42
WPA worker	5	4.59
Hosiery mill worker	3	2.75
NYA worker	1	0.91
Midwife	1	0.91
Laborer	1	0.91

Duration of Disease	Number of Cases	Percentage
Less than 1 year	3	2.75
1 year	13	11.93
2 to 5 years	36	33.03
6 to 10 years	32	29.36
11 to 20 years	20	18.35
21 to 30 years	5	4.59
Indefinite	2	1.83

The longest duration was thirty years in one case.

Recurrences	Number of Cases	Percentage
1	20	18.35
2 to 5	28	25.69
6 to 10	22	20.18
11 to 20	10	9.17
Over 20	4	3.67
None	25	22.94

Parts of body affected by eruption (from history)

Area	Number of Cases	Percentage
Upper extremities	87	79.82
Lower extremities	60	55.05
Face and neck	31	28.44
Back	5	4.59
Abdomen	1	0.91
Chest	1	0.91

Alimentary tract symptoms:

Symptom	Number of Cases	Percentage
Sore mouth or tongue	77	70.64
Burning or hurting in abdomen	64	58.72
Constipation	40	36.70
Diarrhea	29	26.61
Gas	18	16.51
Vomiting	9	8.76
Nausea	6	5.51
Loss of appetite	4	3.67
Sour stomach	3	2.75
Weak feeling in stomach	1	0.91

It is especially interesting to note in this connection that 40 out of the 109 cases had constipation, in contrast to only 29 cases with diarrhea. This shows plainly that pellagra is changing its characteristics. In its earlier, more acute manifestations in this country, the great majority of its victims had diarrhea, and the "three D's"—dermatitis, diarrhea, and dementia—were taught as the diagnostic triad of pellagra, to which there were relatively few exceptions.

Pains other than abdominal:

Areas Affected	Number of Cases	Percentage
Head	15	13.76
Feet and legs	15	13.76
Back	5	4.59
Chest	4	3.67
Eyes, back of neck, throat, fingers and feet, left flank, and all over body, each	1	0.91

Paresthesias:

Areas Affected	Number of Cases	Percentage
Upper extremities	45	41.28
Lower extremities	30	27.52
All over body	10	9.17
Abdomen	3	2.75
From waist down	1	0.91
Back	1	0.91
Left side	1	0.91

All the above consisted of the usual numbness and tingling. Other paresthesias noted were: roaring in head, rushing of blood to head (not due to nicotinic acid), and queer feeling in eyes—each in one case. One patient made the very interesting statement that the muscles in her arms felt as if there were little bells ringing in them.

Weakness was present in 83 cases, or 76.15 per cent.

Nervous Symptoms	Number of Cases	Percentage
Vertigo	78	71.56
General nervousness, irritability, fearfulness, worry	47	43.12
Forgetfulness or confusion	37	33.94
Insomnia	36	33.03
Definite history of a psychosis	8	7.34
Fear of going crazy	6	5.50
Depression, blind spells, dream state, delirium, somnolence, general shaking—each	1	0.91

Past Treatment	Number of Cases	Percentage
Yeast	78	71.56
"Shots"	25	22.93
Diet alone	11	10.09
Nicotinic acid	6	5.50
"Drops"	5	4.59
Valentine's Liver Extract	3	2.75
Patent medicines	3	2.75
Parenteral liver extract	2	1.83
Cod liver oil	2	1.83
Myeladol, cod liver oil concentrate, hydrochloric acid, vegex, salve, thiamin chloride—each	1	0.91
Miscellaneous	8	7.25

Previous diet was adequate in 18 cases, or 16.51 per cent; inadequate in 86, or 78.90 per cent; and questionable in 5, or 4.59 per cent.

Alcoholic beverages. Eighty-six, or 78.9 per cent, said they did not drink. Three, or

2.75 per cent, were moderate drinkers; 6, or 5.51 per cent, were excessive drinkers. Fifteen, or 13.76 per cent, were indefinite. Here, as in other endemic areas of pellagra, alcohol plays a very minor role, as contrasted with reports from northern clinics.

Excreta Disposal	*Number of Cases*	*Percentage*
Water borne sewage, plumbing good	68	62.39
Water borne sewage, plumbing defective	5	4.59
Sanitary privy	16	14.68
Unsanitary privy	13	11.92
Indefinite	7	6.51

Our findings, therefore, show nothing to support the theory of the Thompson-McFadden Pellagra Commission that the spread of pellagra is due to unsanitary excreta disposal.

Screening	*Number of Cases*	*Percentage*
Good	50	45.87
Fair	11	10.09
Poor	18	16.51
None	17	15.60
Unspecified	14	12.84

There were *contacts or a family history of pellagra* in 60 cases, or 55.05 per cent. Thirty, or 27.52 per cent, were negative, and 19, or 17.43 per cent, were indefinite.

Physical findings:

General Nutrition	*Number of Cases*	*Percentage*
More than 40% underweight	3	2.75
More than 30% underweight	8	7.25
More than 20% underweight	33	30.28
More than 10% underweight	70	64.22
Normal weight	29	26.61
More than 10% overweight	7	6.42
More than 20% overweight	3	2.75
Alimentary tract:		
Red beefy mouth or tongue (far more complained of a sore mouth subjectively than showed the typical beefy red color)	10	9.17
Exceptionally bad teeth (nearly all patients needed dentistry)	10	9.17
Abdominal tenderness (usually epigastric)	25	22.94
Nervous System:		
Knee jerks exaggerated	10	9.17
Knee jerks sluggish	3	2.75
Knee jerks absent	1	0.91
Intention tremor	1	0.91
Ataxic gait	1	0.91
Tremor of hands and feet	1	0.91

Treatment given. All patients were instructed as to dietary measures by the social service worker, and the most economic way of employing these was considered. In addition to this, 81 cases, or 74.31 per cent, were given nicotinic acid; 24, or 22.02 per cent, were given yeast; 5, or 4.59 per cent, were treated by diet alone; and one patient was given hydrochloric acid. In 6 patients, or 5.50 per cent, yeast was found superior to nicotinic acid. All patients who took treatment faithfully showed prompt improvement on either nicotinic acid or yeast, so far as their pellagrous symptoms went. Many had non-pellagrous symptoms in addition, which naturally showed no improvement. Two cases showing peculiar reactions to treatment were noted. One patient said that every time she took yeast her feet would break out in an eruption. This seemed to be true, but nicotinic acid solved the problem. Another patient said that nicotinic acid seemed to cause a swelling of the hands and feet, which cleared up on yeast. I have no explanation of these phenomena, unless they were on an allergic basis.

Recommendations: In general, the treatment given seemed adequate for the pellagra *per se*. While there was usually some gain in weight under the treatment, this was not as striking as one would wish. I believe the explanation is to be found in the poverty of the patients, which prevented them from getting an adequate diet. If more funds could be secured to help the deserving unfortunates among the clinic patients to get better food, still more good would be done. The great prevalence of bad teeth, and the statement of many that they were financially unable to go to a dentist, suggest the necessity for a full-time dentist in our public health department.

The Patient's Need of Guidance: Many a patient, after going the rounds of the specialists, has found relief in mental healing or New Thought or Christian Science, because he lacked the guidance of a sound general practitioner who understood his physical condition, his nervous temperament and knew the details of his daily life. And many a patient, who on his own initiative has sought out specialists, has had minor defects accentuated so that they assumed a needless importance, and has even undergone operations that might well have been avoided.—Peabody, Francis W.: Doctor and Patient, New York, The Macmillan Company, 1939.

North Carolina Medical Journal

Owned and Published by

The Medical Society of the State of North Carolina, under the direction of its Editorial Board.

EDITORIAL BOARD

Wingate M. Johnson, Winston-Salem
Editor.

T. W. M. Long, Roanoke Rapids
Business Manager.

Paul P. McCain, Sanatorium, Chairman.

W. Reece Berryhill, Chapel Hill.

Coy C. Carpenter, Wake Forest.

Frederic M. Hanes, Durham.

Paul H. Ringer, Asheville.

Hubert A. Royster, Raleigh.

Address manuscripts and communications to the NORTH CAROLINA MEDICAL JOURNAL, 428 Stratford Road, Winston-Salem.

MAY, 1940

AS OTHERS SEE US

One of the great pleasures of editing the NORTH CAROLINA MEDICAL JOURNAL is that of seeing the other state journals that come to the editorial desk. A number of these journals have spoken so kindly of the newcomer in their midst, and have given it such a hearty welcome that it is already beginning to feel at home in the family of state journals.

Since the NORTH CAROLINA MEDICAL JOURNAL belongs to the entire membership of the State Society, it is only just to its readers that they know something of the warmth of the welcome extended by other state journals. For this reason, we are giving excerpts from a few of the cordial greetings that have been extended.

Dr. E. A. Hines, the veteran editor of our southern neighbor, *The Journal of the South Carolina Medical Association*, wrote a cordial letter, in addition to giving us the leading editorial, from which the following passages are quoted:

"Volume 1 and number 1 of the new official organ of the Medical Society of the State of North Carolina is off the press and it is indeed a creditable first number and as was to be expected is in keeping with the high standards of the practice of medicine in North Carolina. The format is attractive, simple, and dignified . . ."

"The Journal of the South Carolina Medical Association extends most cordial greetings to this new comer in the field of medical journalism from the sister state of North Carolina."

In the November number the *Virginia Medical Monthly* anticipated our first issue —perhaps fearing the worst!—with a welcoming editorial and much good advice. This was followed after our first issue by a friendly note of commendation from Miss Agnes Edwards, the business manager.

Likewise, the *Illinois Medical Journal*, edited by the brilliant veteran, Dr. C. J. Whalen, extended a cordial welcome in its December issue.

The *New York State Journal of Medicine*, in its issue for February 15, honors us with its leading editorial, from which excerpts are taken:

"The *North Carolina Medical Journal*, whose first issue appeared in January, promises to make a distinguished contribution to medical journalism. Its attractive format shows a thorough understanding of the technical aspects of magazine-making. More important, its contents reveal a keen awareness of the functions and responsibilities of a state medical journal.

"It is not enough for a state journal to act as a medium for the dissemination of scientific papers. That is part of its function, and an important part, but by no means all.

"A state medical journal must educate in the broadest sense of the word. It must educate by a discriminating selection of the scientific articles it publishes. It must educate by a constant broadening of medicosocial consciousness in the profession.

"The *North Carolina Medical Journal* apparently intends to do both. Its first issue contains a number of superior scientific articles. Its leading article, 'The Doctor and Socialized Medicine,' by J. Buren Sidbury, M.D., furnishes an excellent analysis of one of the leading medicosocial problems of our times."

. . . "Dr. Sidbury's article proposes concrete remedies for concrete ills. He accepts

the principle of federal financial aid to provide medical care for the underprivileged but defines the conditions under which such aid is acceptable and produces the best results. At the same time he debunks much of the propaganda for state medicine. If his article reflects the policy of the *North Carolina Medical Journal*, this newcomer seems destined to assume an important place among state medical publications."

Other state journals greet us as follows:

Journal of the Michigan State Medical Society:

"THE JOURNAL of the Michigan State Medical Society congratulates the Medical Society of the State of North Carolina on its newly established *Journal* . . . The first number indicates that the new journal will take its place among the leading medical publications of the United States. Our best wishes to Dr. Johnson and assurance of complete co-operation of our staff."

Northwest Medicine:

"With few exceptions all of the state medical associations either publish their own monthly journals or are grouped with proper representation in a united publication. The latest addition to this list is the *North Carolina Medical Journal*, the official organ of the Medical Society of the State of North Carolina. . . . The journal presents an attractive appearance, being set up along lines characteristic of a well established publication. Editorials are on timely subjects, and the articles discuss problems of vital interest to the profession. This publication is welcome into the family of state medical journals."

The Mississippi Doctor:

"We are delighted to welcome to our desk the *North Carolina Medical Journal* which comes as Vol. 1, No. 1 . . . It emerges with sixty-four pages of reading matter and a fine lot of advertising. J. Buren Sidbury, of Wilmington, leads with an able discussion on "The Doctor and Socialized Medicine." Dr. Rock Sleyster, President of the American Medical Association, Dr. Nathan Van Etten, President-elect, Dr. Fishbein, and Dr. Olin West, join in with their most cordial greetings. If No. 1 is to set the pace, then North Carolina is to have a very fine journal."

Delaware State Medical Journal:

"We have before us Volume 1, Number 1, of the *North Carolina Medical Journal*, dated January 1, 1940, and we welcome it into the ranks of the State Medical Journals. An excellent issue is this first one, containing sixty-four pages of text, sixteen pages of advertising, and four pages of announcements . . . The Presidential Address of Dr. J. Buren Sidbury, of Wilmington, on 'The Doctor and Socialized Medicine', is an excellent and sane discussion and well deserves its position of leading article."

Connecticut State Medical Journal:

"The Connecticut State Medical Journal no longer remains the youngest member of the family of state medical journals. In January of this year appeared the North Carolina Medical Journal, the official organ of the Medical Society of the State of North Carolina. As in our own case, this new journal replaces the Annual Proceedings of that particular Society. . . . We extend a hearty welcome to the North Carolina Medical Journal, to Doctor Johnson and to his editorial board. We covet for this new journal a long life of usefulness to its Society."

Pennsylvania Medical Journal:

"In January, 1940, a new journalistic baby was born in the form of the *North Carolina Medical Journal*. . . ."

"THE PENNSYLVANIA MEDICAL JOURNAL, now in its forty-third year, wishes to congratulate the North Carolina Society on taking this forward step that will undoubtedly promote organized medicine in North Carolina.

"To Dr. Johnson and his associate editors we extend congratulations on the fine journal that they have produced."

Medical Annals of the District of Columbia:

"An attractive publication has been added to the family of state medical journals. The first issues of *The North Carolina Medical Journal* have been received at the Society's office. Its editorial staff is to be commended on a splendid journal. Not only are the scientific articles of unusual interest but typographically it has much to commend it. Editors of the MEDICAL ANNALS extend their congratulations to the North Carolina Medical Society on their new journal."

And last, but by no means least, our own *Southern Medicine and Surgery:*

"Number 1, volume 1, of the new *North Carolina Medical Journal* came to this desk since the publication of our last issue. . . . It is a highly creditable production. . . ."

"The essays are well chosen to cover a number of important pathological states. The editorial expression covers the purposes and scope of the journal. The advance tributes paid on faith are but the harbingers of the unstinted praise that must be paid later for work well done. . . ."

* * * *

"THE MOST IMPORTANT THING"

The Forum for March contains an article entitled "I Can't Afford to Be Sick", which should be read by everyone who advocates regimenting the medical profession. It records the medical experience of the anonymous mother of two children, whose husband, a highly paid sales manager prior to the depression, lost all his savings in a bank failure in 1930 and soon afterwards became crippled with arthritis. In their prosperous days they had well-known doctors, paid them well, and got good service. In the dark days after the crash, she and her family patronized first a very young private doctor whose charges and whose ability were both low. Later they went to public dental clinics, eye clinics, orthopedic clinics, the children's hospital ward, and a government naval hospital. All of these were repulsive to this gently-bred woman, and the results obtained were unsatisfactory.

As a result of her contact with the socialized type of medical care, this woman concludes: "My experience casts a white light on the problem of state or group medical care. I see clearly that the most important thing is to preserve, somehow, the principle of competition for the patient's favor. The doctor who can deliver the goods professionally and personally must get the business as he does now. His confreres who are starving now must continue to starve, in the best interest of society."

It is quite significant that this highly intelligent woman should have recognized the importance of a principle for which organized medicine has been contending so long. While the advocates of political medicine profess great concern over security for the doctor, they overlook the danger that their kind of security for the doctor may mean insecurity for the patient.

* * * *

THE ABUSE OF THE SULFONAMIDE COMPOUNDS

New remedies, if they had the power of speech, would very probably beg to be spared from the excessive enthusiasm of their medical admirers. The tremendous curative power of sulfanilamide and sulfapyridine, with allied compounds, should not lead us to expect them to cure everything, and should not blind our scientific vision to the possible harm they may do. Unquestionably there has been a tendency to use these preparations—especially sulfanilamide—entirely too freely, if not recklessly. In the *Journal of the American Medical Association*, for March 16, Rhoad and Afremow report their experience with the use of sulfanilamide in 31 cases of sore throats in which hemolytic streptococci were found, compared with 36 control cases treated under similar conditions, but without sulfanilamide. Both pharyngitis and tonsillitis were included in the series. Their conclusion was that sulfanilamide "was not found to reduce the severity of the symptoms, shorten the period of incapacity, reduce the incidence of complications or reduce the duration of the carrier state. Toxic manifestations of the drug other than the usual cyanosis occurred in one half of the cases in which sulfanilamide was administered. In a few instances these reactions were serious enough to cause genuine concern.

"It is not wise to make sweeping generalizations on the basis of one series of controlled cases. Sulfanilamide is a drug of proved value in severe infections of deep structures due to the hemolytic streptococcus. However, in the average uncomplicated case of tonsillitis or pharyngitis due to hemolytic streptococci the advisability of its routine use is questionable. Certainly no physician should be censured for withholding the drug in these conditions unless complications such as severe cervical adenitis, paranasal sinusitis, otitis media, mastoiditis or meningitis supervene."

CASE REPORTS

DUKE HOSPITAL CLINICO-PATHOLOGICAL CONFERENCE

NOVEMBER 8, 1939

DR. DAVID T. SMITH (reading the clinical summary):

The patient, a fifty-one year old white grocery salesman, was admitted because of fever of six weeks' duration.

Past History: The patient's general health had been good until the present illness. He had Cuban fever in 1899, which lasted for two or three weeks. He had two penile sores at the age of seventeen, with bilateral enlargement of the inguinal nodes. Concomitantly he had pain on urination and urethral discharge. He was treated with iodides, mercurials and intra-urethral medications, and recovered in a few weeks without sequellae. Blood Wassermanns taken thirty and fifteen years previously were reported negative.

Present Illness: Four months before entry, the patient began to feel generally below par, and slightly feverish, with a few chilly sensations. Thinking he had malaria, he gave himself a course of atabrine, following which his skin turned yellow. Subsequently he visited his physician, who gave him a course of quinine, without improvement in his symptoms. About six weeks before admission, he developed a severe cold and cough, productive of about 30 cc. of thick, yellow, foul-smelling sputum which was occasionally blood-streaked. For his cough, his physician prescribed a syrup containing codeine and iron. He continued to have a slight fever. Several sputum examinations done by the State laboratory were reported as negative for acid-fast organisms. For two weeks prior to entry the patient had had his temperature taken daily. It ranged from 100 to 102°F. He continued weak, lost his appetite, had night sweats and frequent chilly sensations without frank shaking chills. Four days before entry he noted that his ankles were swollen, slightly reddened, and painful; also that there were several small, erythematous areas over the patellar regions. Two days before entry he was examined by fluoroscope and told that he did not have tuberculosis. Sputum examinations for acid-fast bacilli were reported as negative at this time. For about two days before entry his cough had almost completely subsided. He lost approximately twenty pounds in weight during his six months' illness.

Physical Examination: The temperature on admission was 39°C.; pulse was 104; respirations, 22, and blood presure, 126/70. The patient was a fairly well nourished, chronically ill, middle-aged white man. The eyes were bright; the skin pale; and there was no cyanosis or icterus. Several small, red, non-tender papules were present over the knees. These areas blanched on pressure. Mucous membranes were pale. The teeth were in good repair, and the gums showed only minimal gingivitis. There was general enlargement of the lymph nodes. The trachea was in the midline, without tug. The thyroid was not enlarged. The lungs were essentially clear to percussion and auscultation. No rales were heard. The abdomen was negative. The liver and spleen were not felt. Both ankle joints were slightly swollen and red. They were tender and painful on both active and passive motion. The remainder of the examination was not remarkable.

Accessory Clinical Findings: Blood Wassermann and Kahn were negative. The hemoglobin was 9 grams or 58 per cent. Red cell count was 3,260,000, with a color index of .89. White cell count was 5,640; polymorphonuclears, 60 per cent; large lymphocytes, 12 per cent; small lymphocytes, 24 per cent; 4 monocytes. *Urine:* Specific gravity varied between 1.012 and 1.024. There was occasionally a trace of albumin, and an occasional white blood cell and small granular cast. Repeated stool examinations were negative. X-ray the day after entry showed generalized bronchial thickening on the right, and a large mass of glands in the right hilum. On the left there was diffuse bronchial thickening. The changes about the right hilum suggested primary malignancy or hilar tuberculosis. Sputum examination was negative for acid-fast bacilli on eight different occasions. No fusiform bacilli were present in gentian violet stain, and no spirochetes were seen on dark field examination, at the time of admission. Sputum cultures were negative for fungi, and positive for staphylococcus aureus, on three occasions. Repeated blood cultures and agglutinations for all antigens used in the laboratory were negative.

Course in the Hospital: The patient remained in the hospital for ten weeks. He had almost continuous fever of 39 to 40°C. During the last two weeks, however, it was more remittent, occasionally dropping to 37 and 37.5°, and seldom going above 39. During the first three weeks, there was a relative bradycardia, the pulse rate ranging between 100 and 120; but during the last seven weeks of the illness there was a relative tachycardia, ranging from 130 to 140. There was persistent leukopenia; the highest white blood cell count during his stay was 6,800, and it ranged from that figure downward to 2,640 on the day of his death. There was usually a relative granulocytosis, with a rather marked shift to the left in the Schilling hemogram. The anemia was progressive in spite of transfusions and other usual supportive measures. The day before his demise the red cell count was 2,630,000; the hemoglobin was 7 grams or 49 per cent; color index, .9. White cell count was 2,240; segmenters, 21 per cent; stabs, 33 per cent; juvenile, 12 per cent; large lymphocytes, 12 per cent; small lymphocytes, 6 per cent. No malaria parasites were seen at any time. The patient's platelets were consistently low. On one occasion the platelet count was 13,000; on another, 45,000. X-rays of the ankle were negative. X-rays of the hands showed nothing to suggest Boeck's sarcoid. X-rays of the skull and long bones were negative. Bence-Jones protein was negative. Flat plate of the abdomen, G. I. series and barium enema were all negative. Bronchoscopic examination was negative. Examination of a small amount of purulent material obtained from the right bronchus was negative for acid fast bacilli. Cultures for fungi were negative. Staphylococcus aureus was cultured. Lipiodol injection of the lungs was done. There was no evidence of obstruction in either of the main bronchi. The findings suggested a lesion of the bronchus, and an epibronchial tumor was suggested by the roentgenologist. On the second day after admission to the hospital, the patient was seen by the visiting staff member, who noticed distant tubular breathing in the right interscapular region, between the third and sixth ribs. There was some suppression of breath sounds over the right lower lobes, and sticky inspiratory rales were heard posteriorly. The spleen was thought to be easily palpable, soft and non-tender. He thought that the disease picture might be due to chronic Friedlander's infection, bronchogenic carcinoma, Hodgkin's disease, or Boeck's sarcoid. A sternal puncture showed no plasma cells or other abnormal cellular elements. There was a depression of all hematopoietic elements. On one occasion the patient coughed up small clots which resembled tissue. The pathological laboratory reported these as mucus and normal squamous epithelium. The small erythematous areas observed on admission disappeared, and thereafter none were noted. The swelling and pain in both ankles also cleared. The suggestion of bronchogenic carcinoma or lymphosarcoma caused a therapeutic trial of x-ray. 1500 R. units were given over the chest during the third week of hospitalization. Re-examination of the chest by x-ray showed no decrease in size in the hilar shadows. It was thought that this would exclude lymphoma, but not carcinoma. During the fifth week of hospitalization, the patient developed an infection of the right cheek, which gradually increased in size. Numerous fuso-spirochetes were found in the infected areas. Because of this the patient was started on small does of Neoarsphenamine, but the infection continued to spread and involved almost the entire right cheek before his demise. In spite of supportive measures, the patient became progressively worse and expired on his sixty-ninth hospital day.

Discussion

DR. SMITH: This case presents an exceedingly complex clinical problem. However, it gives me the excuse to call to your attention two classical articles on the diagnosis of obscure fevers. These articles appear in the Johns Hopkins Hospital Bulletin, 58: 109 and 307, 1936. The first is on diagnosis of mild low-grade unexplained fever, and the second on high unexplained fever. Both of these reports are by Drs. Louis Hamman and Charles W. Wainwright of Baltimore.

I have listed here nine somewhat unusual points in this story. We must explain all of these nine points before we can hope to come to a satisfactory explanation of the disease in this man. Four months before admission there began (1) a febrile disease which was mistaken for malaria. Six weeks before admission there occurred (2) an acute respiratory infection with yellow sputum which was

reported as "foul". Yellow sputum is usually produced by staphylococcus aureus and is not foul. Four days before admission he had (3) red swollen ankles with erythema. We have to explain (4) the persistent neutropenia with non-segmented polymorphonuclear cells and the absence of the cells which would justify the diagnosis of leukemia. There were (5) glands in the right hilar region, (6) a spreading pulmonary lesion, (7) an enlarged spleen and (8) a continuous high fever (39-40°C.) with a bradycardia followed by tachycardia. Finally, we must explain (9) the gangrenous lesion of the face.

The last point is easily explained. The patient had a fuso-spirochetal abscess with terminal gangrene of the right cheek because of poor tissue resistance resulting from his disease.

Did the patient have malaria? I do not think he did, because he was well treated by his family physician and was examined thoroughly here, and no malaria parasites were found. His clinical course is not consistent with malaria.

Did the patient have a chronic progressive staphylococcus infection? Such an infection might explain the original febrile period, when he was coughing up yellow sputum; the progressive pulmonary infection; the swollen ankles; the erythematous areas; the neutropenia with increased young polymorphonuclear leukocytes; and the enlarged spleen. The chief point against this diagnosis is the fact that he had strikingly large glands in the hilum at a time when there was very little disease in the periphery of the lung. I don't recall ever seeing large pyogenic glands in the hilum in cases of staphylococcus abscesses of the lungs or in generalized staphylococcus septicemia.

In view of the ecchymoses on his knee and the joint involvement, we have to consider meningococcemia and gonococcemia. We are justified in ruling out these infections, first, because the blood cultures were negative, and second, because neither of these infections produces progressive localized disease of the lungs and hilar glands.

Aleukemic leukemia, with a secondary staphylococcic infection, must be considered. I would like to ask if the sternal bone marrow was carefully studied.

DR. OSCAR C. HANSEN-PRUSS: There were no abnormal cells in the bone marrow.

DR. SMITH: Did the patient have brucellosis or Hodgkin's disease? Brucellosis is a common cause of unexplained fever, but the clinical course of this case is quite unlike that of chronic fatal brucellosis, and there is never marked enlargement of the hilar lymph nodes in this disease.

Hodgkin's disease would explain the mediastinal lymph nodes and even the secondary pulmonary involvement, but we must assume a secondary infection with staphylococcus to explain the sputum and continuous fever. While Hodgkin's disease may be limited to the mediastinum, it is more usual to have some other groups of glands involved as well. The bone marrow showed no evidence of Hodgkin's tissue, and I feel the patient's course was too stormy to be explained by Hodgkin's disease, even with secondary infection.

The slow pulse and high fever would suggest typhoid fever, but I do not think this is typhoid fever. It is hard to understand how typhoid could cause the change in the chest.

Hypernephroma might explain the neutropenia, enlarged spleen, metastatic involvement of the lungs and mediastinal glands. The patient was much more toxic than we would expect from hypernephroma, and the failure to respond to x-ray therapy eliminates this diagnosis.

Although the patient has a history of syphilis, his extensive pulmonary involvement and acute toxic course is inconsistent with a diagnosis of syphilis.

Did the patient have a primary carcinoma of the bronchus? (X-rays shown) His first film shows definitely enlarged glands of the right hilum. Later films show extension to the lung on the right and enlargement of the mediastinal nodes on the left. The lipiodol injection shows some narrowing of the bronchi, but this is not typical of carcinoma. Although the bronchoscopic examination failed to reveal a tumor, this does not of itself rule out such a tumor. The involvement of the glands on the left is against a primary carcinoma on the right. One cannot justify a diagnosis of primary carcinoma without assuming a severe generalized secondary infection which is much more extreme than one usually finds in cases of primary carcinoma of the lung.

Did the patient have a primary carcinoma

of the stomach or intestinal tract with pulmonary metastasis? Such a diagnosis would explain the enlarged spleen and the pulmonary findings, but there was no evidence of a primary focus in the stomach or intestinal tract, and here again the clinical course of the disease suggests a severe generalized infection.

The one diagnosis which would explain all of the symptoms and signs is primary generalized tuberculosis. The spleen, glands, and joints are not usually involved in reinfection or adult type of tuberculosis. Primary generalized tuberculosis occurs more often in children than in adults, and more frequently in negroes than in whites; but there are a surprising number of adult whites in North Carolina who have never had a primary infection with the tubercle bacillus. Most primary infections are asymptomatic and progress to healing, but occasionally an adult proceeds from the primary on to a generalized disease and dies in three to six months from the time of infection. A diagnosis of primary generalized tuberculosis would explain all of the unusual points in this case (see above). The bradycardia followed by tachycardia could be explained by enlarging tracheobronchial glands which first involved the vagus nerve producing bradycardia and later paralyzed the nerve by increasing pressure and thus releasing this inhibiting factor. This type of neutropenia is frequently seen in fatal cases of tuberculosis. The absence of the tubercle bacilli in the sputum is not at all unusual in primary generalized tuberculosis.

DR. ROGER D. BAKER: Would you like to list your diagnosis in a differential fashion with tuberculosis first?

DR. SMITH: Well, I'd say that tuberculosis would adequately explain all of the symptoms and signs. I cannot, however, be sure that this is tuberculosis, and I would offer the following list of possibilities:

1. Tuberculosis
2. Metastatic carcinoma from some unknown origin
3. Primary bronchogenic carcinoma
4. Hodgkin's disease
5. Aleukemic leukemia
6. Myelogenous leukemia.

DR. ROBERT J. REEVES: It is unusual to see a primary carcinoma spread so rapidly in the lungs.

DR. HANSEN-PRUSS: I saw the patient very soon after he came into the hospital. I was very much impressed by the febrile course and intoxication. My first impression was that this man had a pyogenic infection of some sort with pyemia, the other possibility being tuberculosis. Leukemia of any type is ruled out by the myelophthisic type of bone marrow. The striking degenerative shift in the hemogram with a persistent leukopenia is definitely unusual in uncomplicated miliary tuberculosis—more so, if it is accompanied by a progressive aregenerative anemia and thrombopenia. Such findings, however, could be caused by secondary staphylococcus infection with the attendant intoxication. If this patient had miliary tuberculosis, such a complicating infection must be expected to explain the peripheral blood and bone marrow picture. The relative granulocytopenia was observed only on one occasion and was followed later by the relative granulocytosis reported above. The striking decrease in the absolute number of lymphoid cells suggests a markedly destructive and extensive involvement of the lymphoid system including the spleen, and, in that sense, is compatible with Dr. Smith's impression that this patient had miliary tuberculosis.

DR. SMITH: In generalized tuberculosis the spleen would be palpable and there would be generalized involvement of the lymph nodes.

DR. WILLIAM SCHULZE: The patient had a secondary infection, which could explain the large spleen.

DR. JAMES B. BULLITT: How do you explain the metastasis to the ankles, if this was tuberculosis?

DR. SMITH: I would explain both the swollen ankles and the erythema of the skin as a part of the generalized spread of tuberculosis through the body.

DR. SCHULZE: The diagnosis was a puzzle to those of us who were caring for the patient. From the x-ray report we had tuberculosis or carcinoma to consider. Since many were in favor of bronchogenic carcinoma, Dr. Hart was consulted about biopsy and possible removal of a tumor, but the patient was too sick.

DR. BAKER (presenting autopsy findings): This case still presented a diagnostic prob-

lem after the gross autopsy was performed. Not until microscopic sections were available were we certain of the true nature of the process. But gross examination narrowed down the probabilities to tuberculosis (or some rare fungus condition simulating tuberculosis), and Hodgkin's disease.

At the time of autopsy each pleural cavity contained over a liter of slightly turbid straw-colored fluid. The infection of the face could not be adequately studied because of its location but it seemed to be fuso-spirochetal in nature and not related to the essential disease process except as a terminal event, resulting from the debilitated condition of the patient.

The lungs, as you see, contain no cavities. In the right lower lobe lies a yellowish gray consolidated region as big as a fist. The bronchi here are ulcerated and contain yellowish material. Throughout both lungs are evenly distributed, yellowish nodules 0.5 cm. in diameter, and 1 to 2 cm. apart. The tracheal mucosa shows numerous ulcers nearly 1 cm. in diameter. The lymph nodes at the hila are enlarged, firm and yellowish, and higher up encircle the trachea. Individual nodes are 2 to 3 cm. in diameter, and the whole mediastinal mass is the size of a fist. The mucosa of the lower small intestine and of the large intestine is normal.

The spleen is about four times normal size (470 grams). The cut surface shows yellowish nodules up to a centimeter in size. Similar nodules are noted in the liver, kidney and heart muscle. About the head of the pancreas are large yellowish lymph nodes like those in the mediastinum.

The gross material is thus suggestive of tuberculosis, but cases of Hodgkin's disease are available with the same splenic appearance, and with tracheal ulceration much like that seen here.

Microscopically (with projection of slides) a review of the material obtained during life at bronchoscopy shows only mucus and surface epithelium. Even with the knowledge gained from the autopsy we could go no further in interpreting the biopsy.

The significant fact in the case is that acid-fast bacilli were stained in sections of the main lung lesions and in the numerous yellowish nodules of the lungs and spleen, and even in a tubercle of the thyroid gland. The tissue reaction is that of tuberculosis. The tubercles are in general fresh with much caseation and only moderate fibrosis. No very old or calcified lesions are present. Sections indicate that the tracheal ulcers are definitely tuberculous, as is the pleural exudate.

The case is, therefore, one of tuberculosis, but it is not the usual adult kind of tuberculosis with predominant involvement of the apices of the lungs by nodules or cavities. It is, rather, what one finds in a primary infection in childhood. Apparently the patient was infected with the tubercle bacillus only a few months before his death. The caseous pneumonia of the right lower lobe represents the primary focus. This spread to the hilar nodes, producing a mediastinal mass of tuberculous glands. Hematogenous spread occurred to an extent justifying the term miliary tuberculosis.

The absence of a cavity is to be correlated, probably, with the failure to find tubercle bacilli in the sputum. Bronchoscopic examinations repeated at the very last part of the patient's course, with recovery of characteristic material from the tracheal ulcers, might have permitted a clinical diagnosis. But it is to be recalled that the patient was very ill towards the close, and had gangrene of the face.

In retrospect, the very large spleen is perhaps the most helpful clinical feature in differentiating carcinoma from tuberculosis; for one might expect a large spleen in miliary tuberculosis, but hardly in carcinoma, because the spleen is not often the site of metastases from a carcinoma. But one might argue that secondary infection in connection with bronchial carcinoma could produce an enlarged spleen, of the acute splenic tumor type.

Anatomical Diagnosis

1. Tuberculous pneumonia of the lower lobe of the right lung (primary focus).
2. Tuberculous ulcers of bronchi and trachea.
3. Mediastinal lymph node tuberculosis.
4. Miliary tuberculosis, most prominent in lungs, spleen and liver.
5. Sero-fibrinous tuberculous pleurisy.
6. Fuso-spirochetal gangrene of right cheek.

CLINICO-PATHOLOGICAL CONFERENCE

City Memorial Hospital

Winston-Salem

A forty-three year old man was admitted to the hospital with his clothes drenched with sweat.

The patient was well until five months before admission, when he began to have recurrent attacks of chills and fever. He was sure that his temperature often reached 103°F. During the chills he was often seized with vomiting. The chills came at intervals of five days to three weeks, but the patient continued his work as a farmer in the intervals, losing only one day's work at a time. Six weeks before admission he had lost 25 to 30 pounds in weight, and had become so weakened that he could no longer work. His teeth had been bad and he had been having them extracted sporadically. Since he had been ill he had become increasingly nervous and had had severe aching of his legs. Eight weeks before admission his eyesight gradually began to fail and he occasionally had diplopia. He had not had any headaches, but two weeks after his sight began to fail he was dizzy for about two weeks. He knew that his blood pressure had been low for at least two months. He also complained of difficulty in starting the urinary stream, poor appetite, and shortness of breath from gaseous distention of his abdomen.

Physical examination revealed a very thin, emaciated, extremely ill man, looking much older than his given age. The skin was cold, pale and damp. There was slight lateral nystagmus. The pupils were small, equal and regular, and reacted to light and accommodation. There were no ocular palsies. Both optic discs were choked. Only one tooth was left in the mouth. The pharynx was red. The blood pressure was 95 systolic, 65 diastolic; and the heart sounds were faint. The lungs were normal. The abdomen was slightly distended with gas; the liver was slightly enlarged and there was some tenderness at the edge of the costal margin. The spleen was felt at times. The finger tips were cyanotic. The reflexes were normal.

The temperature on admission was 97.6°F. The pulse was 88 and the respirations, 18. An hour and a half later the patient had a chill and the temperature went to 103°F., the pulse to 142, and the respirations to 22.

Examination of the blood revealed a red cell count of 3,950,000, with 8 grams of hemoglobin (55%); and a white cell count of 18,900, with 73 per cent segmented polymorphonuclears, 15 per cent stab cells, 3 per cent juvenile cells, 1 per cent myelocytes and 8 per cent lymphocytes. No malarial parasites were found in the stained smear. The urine was amber, turbid, and acid in reaction, with a specific gravity of 1.019. It contained a few white cells and a few hyalin and cellular casts in a centrifuged specimen. One blood culture remained sterile.

The day after admission the patient had another chill, his temperature went to 101.4°F., his pulse to 132, and his respirations to 21. He complained of a stomach ache. This was due to distention, and was relieved by a rectal tube. The patient became irrational on the second day after admission. The blood pressure fell to 40 systolic, 0 diastolic; and the pulse became imperceptible. The temperature at this time was 104.4°F. The patient died three hours later.

Differential Diagnosis: This patient's stay in the hospital appears to be merely the closing chapter of a story which was none too well defined at any time. The main theme of the history is irregularly recurring chills and fever without any obvious cause. That these chills were severe is evidenced by the ensuing weakness, loss of weight, and secondary anemia. It is necessary to search for some cause for the chills and fever. Malaria can be excluded at once by the complete irregularity of the chills and the length of time between them, sometimes amounting to three weeks. Tuberculosis or the lungs is eliminated by the absence of cough and sputum and by the negative lung findings. A pyogenic infection of some region of the body would fit in with the history, as would repeated attacks of biliary colic. Against biliary colic is the entire absence of jaundice and pain in the abdomen. Many cases of gall stones run their course without ever having jaundice, but the particular type of trouble most likely to produce chills and fever —common duct stone with infection—almost always causes jaundice and colic.

A pyogenic infection remains to be considered. The total leukocyte count of 18,900, with the shift to immature cells, is certainly good evidence of this. Nothing in the history suggests where this might be, except

the statement that there was difficulty in starting the stream on urination. The urine examination, however, is inconsistent with urinary tract infection, as the finding of only 8-10 white cells in the urine is insufficient evidence to indicate an infection of such duration and severity as this patient had.

The choking of the discs, the failing vision, and the dizziness may be taken as signs of intracranial pressure, but the history is certainly not typical of an intracranial lesion and no other neurological signs are present to substantiate this conjecture. The only other positive findings—tenderness at the costal margins and slight enlargement of the liver—direct our attention to the liver and gall bladder as the seat of the pyogenic infection. The gall bladder has been discussed and discarded as a possibility. Abscess of the liver and sub-diaphragmatic abscess must both be considered. A sub-diaphragmatic abscess does not occur ordinarily without some antecedent disturbance having a more or less definite history and physical signs. The duration of five months is also very much against a sub-diaphragmatic abscess. Abscess of the liver on the other hand is frequently painless and can be of as long duration as this illness was. It is true that abscess of the liver is commonly preceded by appendicitis, amebic dysentery or cholelithiasis, and there is no history of any of these. In spite of the absence of any antecedent demonstrable cause for the development of an abscess of the liver, I feel that this is the best probability of the lot. Chills and fever commonly accompany hepatic suppuration. It is frequently painless, and certain types have a duration of months. The leukocyte count implies a suppurative process. The anemia, weakness and dizziness, loss of weight and appetite all are well explained by low-grade suppuration of continued duration. The only localizing signs present are the enlarged, tender liver. My diagnosis is abscess of the liver.

Q. What do you consider the etiologic agent if you have ruled out amebae and intestinal organisms?

A. As to the cause of the abscess one cannot be very definite. Abscesses of the liver may be caused by a variety of organisms. The pyogenic variety generally gives an illness of much shorter duration and has an antecedent history. Endameba histolytica cannot be ruled out as the causative agent, because an amebic abscess of the liver may follow a sub-clinical amebiasis. We have had one such case here recently. Actinomycotic abscesses occur without any history of previous illness or other manifestations of disease. Where this man could have become infected with amebae is not evident.

Q. What caused the choked discs?

A. It has been stated that simple exhaustion is enough to cause papilledema, and this man was certainly exhausted.

Q. (By the pathologist) Did this man at any time have anything at all suggestive of appendicitis?

A. Aside from the vomiting, which was associated with the chills and fever, there was no history of anything of the sort, and there were no physical findings pointing in this direction.

Clinical Diagnosis

Septicemia.
Pyelonephritis.
Malignancy of brain (?)
Malignancy in right upper quadrant (?)

Presentation Diagnosis

Hepatic abscess.

Anatomical Diagnosis

Actinomycotic abscess of liver.
Impaction of gall stones in appendix with erosion of mucosa.
Generalized peritonitis.

Pathological Discussion

The autopsy showed an enlarged liver extending 8 cm. below the costal margin and adherent to the diaphragm by fibrous bands. In the right lobe there was an abscess 12 cm. in diameter just beneath the surface, which had ruptured a short time previously, resulting in an early generalized peritonitis. The wall of this abscess was composed of a thin outer layer of fibrous tissue which supported large villous masses and smaller reddish-gray soft masses which projected into the cavity. The abscess contained thick gray pus. There were numerous small areas of liver necrosis adjacent to the abscess. Sections of the wall of the abscess and of the areas of necrosis contained beautiful colonies of actinomyces, with the typical radiating clubbed ends, surrounded by an exudate of polymorphonuclear leukocytes.

The second item of interest is the appen-

dix, in which were found incarcerated three gall stones, the largest one measuring 1 cm. in diameter, the other two 8 mm. and 6 mm. each. These stones were lying in two large transverse ulcers at the base of the appendix. It was impossible to expel the stones into the cecum. The gall bladder was normal in size and thin-walled. The bile ducts were dilated, thin-walled, and patent. The brain was normal; no abscesses or tumors were found, nor was there any other anatomical cause for the choked discs.

It is evident from the anatomical findings that the history obtained was not adequate. There must have been jaundice at the time the stones were passing through the bile ducts, and it seems only reasonable to suppose that after their incarceration in the appendix there would have been attacks of appendiceal colic. Sections of the appendiceal ulcers reveal the lesion as fairly acute, and it cannot be demonstrated that they were the point of entrance of the fungus. The size of the abscess and the similarity of the attacks, if the history is accurate, indicate that it was probably present from the first and was undoubtedly responsible for the chills and fever.

Actinomyces may enter the intestinal tract and pass through the wall without leaving any evidence of its passage, and first present itself clinically as an abscess of the liver. I believe that is what occurred in this case. The changes suggestive of increased intracranial pressure will have to be explained by exhaustion and toxemia.

EARLY SIGNS OF CANCER OF THE SKIN

1. Cancer of the skin is most often seen on the exposed surface of the body but may be located anywhere on the skin.
2. It may begin as a papule, warty or papular growth, or an ulcer with elevated rolled edges.
3. Another type of skin cancer may start as a thickening of the skin which forms scales or scabs; these scales often shed and are reformed.
4. There is a type of skin cancer that begins as a horn or spur.
5. Skin cancer often develops in scars.
6. Any mole or wart may become malignant from injury, infection or constant irritation.
7. Skin cancer may be multiple.
8. These lesions should be treated early by either irradiation, surgery, or electro-coagulation.

Cancer Committee of the North Carolina Medical Society
H. B. Ivey
T. Leslie Lee
C. C. Carpenter.

SUBSTITUTION LIPOMATOSIS OF KIDNEY

Report of Case

PRESTON NOWLIN, M.D., F.A.C.S.
CHARLOTTE

Replacement of the kidney parenchyma by true adipose tissue is not infrequent. Kutzmann[1] in 1929 collected 35 cases. As he stated in his report, the condition is generally associated with long continued obstruction of the kidney, and in 75 per cent of his cases calculi were present. This substitution process follows destruction by infection; it is not neoplastic, and should be distinguished from renal lipoma.

Clinically the importance of substitution lipomatosis lies in the difficulty of distinguishing it from renal malignancy. This is due to the fact that obliteration of one or more calyces might occur in either condition, causing distortion of the urogram. The diagnosis is generally made only after exploration of the kidney under suspicion; but the condition should be considered wherever there is a bizarre urogram simulating neoplasm, together with calculus formation and infection.

Report of Case

Mrs. J. F. G., a white woman, aged sixty-nine, was first seen at the Nalle Clinic on October 2, 1939. Her chief complaint was "bilious attacks" with "gas and upset stomach".

Past History: The patient's health had been good up to the onset of the present illness. There had been no serious illness or operation.

Present Illness: For the past three years the patient had been having attacks of dull pain in the right upper abdomen and in the right flank. These attacks were accompanied by belching and mild nausea. There was no history of jaundice or clay colored stools. There had been a mild dysuria for several years, but no hematuria, nocturia, or urinary frequency of any note. She had lost thirty pounds in the last two years, but her appetite had been good. Her pain was dull in type, was not colicky, and was not affected by eating. It remained in the right hypochondrium and right flank, and did not radiate to the groin.

Physical Examination: The patient was a rather thin, somewhat emaciated elderly woman, who did not appear to be acutely ill. The temperature was normal, pulse 80, blood pressure 178/96. Examination of the chest revealed nothing of note except a slight cardiac enlargement. The lungs were clear and resonant. Examination of the abdomen revealed a large hard mass, irregular in contour, and about the size of a grape fruit, in the right upper abdomen. This mass moved with respiration and could be palpated distinctly from the liver margin. Pelvic examination was negative.

Laboratory Findings: Urinalysis (catheter specimen) showed a heavy trace of albumen, glucose negative; sediment showed many pus cells but no blood nor casts. Smears of the urinary sediment showed numerous B. Coli, but no tubercle bacilli. Her hemoglobin (Sahli) was 100 per cent. Blood urea nitrogen was 13.6 mg.

X-ray: There was a large calcified mass in the right kidney region which resembled a cast of the lower half of the kidney pelvis. X-ray examination of the chest was negative.

Urological Examination: Cystoscopy revealed a chronic cystitis. 7 F. catheters passed easily to both kidney pelves. Sterile pus-free urine was obtained from the left kidney; from the right there was no flow, but a few drops of cloudy thick pus could be aspirated by suction. Indigo carmine given intravenously appeared in three minutes from the left kidney in good concentration, while none could be aspirated from the right kidney after forty minutes.

A retrograde urogram showed a normal left kidney. On the right the calcified mass seen in the plain film was included in the pyelographic medium. The right ureter was displaced inward, and the superior and middle major calyces were not seen. The lower major calyx contained a large stone, and the minor calyces were blunted and dilated.

Preoperative Diagnosis: Renal stone in the right kidney; adenocarcinoma of the right kidney.

Operation: On October 14, 1939, under cyclopropane and ether anesthesia, a right nephrectomy was done through the usual lumbar incision, and a large pyonephrotic kidney was removed. An uneventful recovery followed and the patient was discharged three weeks after operation.

Pathological Report: (Dr. Wm. Summerville) "The specimen consists of a kidney measuring 10x6x4.5 cm. which is covered by considerable fatty tissue; the capsule is slightly thickened and adherent; the upper pole and calyces showed marked fibrous and fatty tissue replacement. In the lower major calyx there is a large irregular stone, and this portion of the kidney pelvis is dilated. No normal parenchyma is seen. Microscopically sections show fibrous and fatty tissue with a dense cellular infiltration. No normal kidney tissue is seen, but in some areas there are atrophic remnants of tubules."

Diagnosis: Pyonephrosis with calculus. Lipomatosis of kidney.

1. Kutzmann: Replacement Lipomatosis of the Kidney, Proc. of Ninth Meeting Clinical Soc. G. U. Surg., July 1, 1929.

USE OF PLAIN COTTON THREAD FOR SUTURE MATERIAL

WATSON WHARTON, M. D.

SMITHFIELD

The patient was a twenty-three year old white female primipara, who had a second degree laceration. The usual obstetric suture material was old and had lost its tensile qualities. No silk was available. Number 16 plain white cotton thread was taken from the spool and moistened with Tincture of Merthiolate. Three sutures were taken with this within the vaginal canal and two on the perineal surface. The usual post delivery care (pouring warm Cresol Compound solution over the perineum twice a day) was taken. Sutures inspected on the third postpartum day seemed to be holding well and were without any sign of infection. The sutures were removed on the tenth postpartum day. At that time there was no evidence of infection. The laceration seemed to have healed as well as if the usual obstetric suture material had been used. The patient was seen and examined again two months later, at which time the perineum was normal.

Vitamin Advertising and the Mead Johnson Policy

The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding, should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

BULLETIN BOARD

FROM THE OFFICE OF THE SECRETARY

The program for the 1940 meeting of the State Medical Society has been completed. The Chairmen of the various Sections have done an excellent job. Our President, Dr. William Allan, is making an innovation in using members of our own Society rather than out-of-state men as guest speakers, and I am confident that this move will meet with approval.

Our scientific as well as our commercial exhibits are interesting, and it is hoped that the entire membership will visit all of them.

Having served as Secretary for three years, I am struck by the short length of time devoted to the deliberations of the House of Delegates. There are, under the present arrangement, but two sessions of the House; one evening and one afternoon. The evening meeting begins at eight o'clock; but at least one hour of this meeting must be devoted to organization. At the coming meeting there is one subject to be taken up which, if properly discussed, will take up all the time of the sessions. Therefore it appears that at all future meetings it will be necessary, in addition to the present sessions, to have the House of Delegates meet either early in the afternoon or in the morning of the first day, in order that the business of the Society may be dispatched without hurry and with proper deliberation.

All indications are that the coming meeting will be the largest in our history. In the event of an overflow, arrangements have been made with the management of the Carolina Hotel to have a complete list of all available rooms in private homes in Pinehurst and vicinity. Let's all join in making this our biggest and best meeting!

PROGRAM OF THE EIGHTY-SEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

(All sessions will be held in the various convention rooms of The Carolina Hotel)

MONDAY, MAY 13, 1940

9:00 a.m.—Registration—North Carolina Public Health Association.
10:00 a.m.—Morning Session—North Carolina Public Health Association. (Ball Room)
2:00 p.m.—Afternoon Session—North Carolina Public Health Association. (Ball Room)
3:00 p.m.—Drive to State Sanatorium—Tea, Mrs. P. P. McCain's Residence.
6:30 p.m.—Evening Session—North Carolina Public Health Association. (Dining Room)
8:00 p.m.—House of Delegates Medical Society of the State of North Carolina. (Ball Room)
8:30 p.m.—"Keno" Pine Room, Carolina Hotel.

TUESDAY, MAY 14, 1940

9:00 a.m.—Woman's Auxiliary Executive Board Meeting. (Pine Room)
9:30 a.m.—First General Session—The Medical Society of the State of North Carolina. (Ball Room)
10:30 a.m.—Annual Meeting Woman's Auxiliary. (Pine Room)
2:00 p.m.—Section Meetings: Ophthalmology and Otolaryngology (Men's Card Room); Practice of Medicine (Ball Room); Surgery (Ladies' Card Room); Public Health and Education (Dutch Room).
2:00 p.m.—Woman's Auxiliary, Drive to Orchid Gardens, Knollwood, and to Matinee, Carolina Theatre, Southern Pines.
6:30 p.m.—Wake Forest Alumni Banquet. (Crystal Room)
9:00 p.m.—President's Reception.
10:00 p.m.—Annual Medical Society Ball; Freddy Johnson's Band, U. N. C.

WEDNESDAY, MAY 15, 1940

9:00 a.m.—Second General Session—Medical Society of the State of North Carolina. (Ball Room)
10:00 a.m.—Bridge. (Ladies' Card Room)
11:30 a.m.—*Conjoint Session of the Medical Society of the State of North Carolina and the State Board of Health.* (Ball Room)
2:00 p.m.—Section Meetings: General Practice of Medicine and Surgery (Ball Room); Gynecology and Obstetrics (Ladies' Card Room); Pediatrics (Men's Card Room).
2:30 p.m.—Last Session House of Delegates. (West Parlor)
5:00 p.m.—Third General Session, Medical Society of the State of North Carolina. (Ball Room)

SESSIONS OF THE HOUSE OF DELEGATES

May 13, Monday, 8:00 p. m. (Ball Room)
May 15, Wednesday, 2:30 p. m. (West Parlor)

PROGRAM OF GENERAL SESSIONS

FIRST GENERAL SESSION

Tuesday, May 14, 9:30 A. M.
(Ball Room)

1. Call to Order, T. W .M. Long, M.D., Chairman, Committee on Arrangements.
2. Announcements, T. W. M. Long, M.D., Secretary-Treasurer.
3. Presentation of the President, William Allan, M.D., Charlotte.
4. President's Address, William Allan, M.D., Charlotte.

5. Presentation President's Jewel to William Allan, M.D., by President-elect Hubert B. Haywood, Jr., M.D., Raleigh.
6. Report of Committee on Award of Moore County Medical Society Medal for Best Paper Read at 1939 Session and Presentation of Medal—
   Thurman D. Kitchin, M.D., Chairman, Wake Forest.
   I. H. Manning, M.D., Chapel Hill.
   Fred M. Hanes, Durham.
7. Report Obituary Committee:
   J. B. Cranmer, M.D., Chairman, Wilmington.
   Ben J. Lawrence, M.D., Raleigh.
   Paul H. Ringer, Asheville.
8. Address (Guest Speaker) F. B. Watkins. M.D., Superintendent, State Hospital, Morganton, N. C. "A Report on the Trend of Mental Disease in the Western State Hospital District of North Carolina." From Section on the Practice of Medicine.
9. Fred M. Hanes, M.D., Durham. "Sprue." From the Section on General Practice of Medicine and Surgery.
10. Arthur H. London, Jr., M.D., Durham. "The Aims of the Academy of Pediatrics in North Carolina." From Section on Pediatrics.

SECOND GENERAL SESSION

Wednesday, May 15, 9:00 A. M.

(Ball Room)

1. Thomas Leslie Lee, M.D., Kinston. "Our Efforts to Reduce the Morbidity of Child Bearing." From Section on Gynecology and Obstetrics.
2. Address (Guest Speaker) F. B. Davis, M.D., Greensboro. "The Operation of Blood Banks in the Small Hospital."
3. Address (Guest Speaker) John Elliott, Sc.D., and W. L. Tatum, M.D., Salisbury. "The use of Plasma as a Substitute for Whole Blood."
4. Roy Norton, M.D., Chapel Hill. "Twenty-Five Years Health Progress in North Carolina." From Section on Public Health and Education.
5. B. W. Fassett, M.D., Durham. "Headache." From Section on Ophthalmology and Otolaryngology.
6. D. B. Cobb, M.D., Goldsboro. "Appendicitis, the Two P's, and the Highest Mortality in the Civilized World." From Section on Surgery.
7. 11:30—Conjoint Session of the Medical Society of the State of North Carolina and the State Board of Health.

THIRD GENERAL SESSION

Wednesday, May 15, 5:00 P. M.

(Ball Room)

1. Report of House of Delegates.
2. Unfinished Business.
3. New Business.
4. Installation of President. Hubert B. Haywood, M.D., and President-elect by retiring President, William Allan, M.D.
5. Remarks by President and President-elect.
6. Adjourn sine die.

SECTION MEETINGS

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

Tuesday, May 14, 2:00 P. M.
(Men's Card Room)

T. C. Kerns, M.D., Durham, Chairman

1. T. C. Kerns, M.D., Durham (Chairman's Address)—"Evaluation of Tonsillectomy and Adenoidectomy."
2. F. O. Fay, M.D., Wilmington—"Prolonged Occlusion in Latent Phorias."
3. McLean B. Leath, M.D., High Point—"Headache: Discussions and Demonstrations of Some of Its Causes."
4. W. D. Farmer, M.D., Durham—"Sphenopalatine Ganglion Neuralgia."
5. Algernon Reece, M.D., New York (Invited Guest)—"Tumors of the Conjunctiva."
6. B. W. Fassett, M.D., Durham—"Headache." Before Second General Session.

SECTION ON SURGERY

Tuesday, May 14, 2:00 P. M.
(Ladies' Card Room)

D. J. Rose, M.D., Charlotte, Chairman

1. E. V. Benbow, M.D., Winston-Salem—"Subtotal Gastrectomy in Non-Responding Medically Treated Peptic Ulcer: Case Reports."
2. Harry Winkler, M.D., Charlotte—"Low Back Derangements with Associated Sciatica."
3. J. F. Robertson, M.D., Wilmington — "The Management of Some Common Conditions of the Rectum and Colon."
4. Robert W. McKay, M.D., Charlotte—"Fibrous Cavernosis (Peyronie's Disease)".
5. C. R. Monroe, M.D.; C. D. Thomas, M.D., and C. L. Gray, M.D., Pinehurst—"Thoracoplasty and Apiculosis."
6. E. S. Boice, M.D., Rocky Mount—"Mortality with Causes of Death in a Series of 916 Hysterectomies."
7. D. B. Cobb, M.D., Goldsboro—"Appendicitis, the 2 P's and the Highest Mortality in the Civilized World." Before the Second General Session.

SECTION ON PRACTICE OF MEDICINE

Tuesday, May 14, 2:00 P. M.
(Ball Room)

J. H. McNeill, Chairman, North Wilkesboro

1. J. Lamar Callaway, M.D., Durham, and Sherwood Barefoot, M.D., Durham—"The Diagnosis and Management of Chronic Eczematoid Dermatitis of the Hands." Discussion opened by Joseph A. Elliott, M.D., Charlotte.
2. T. W. Baker, M.D., Charlotte—"Experiences with Histaminase, (Torantil)." Discussion opened by C. Graham Reid, M.D., Charlotte.
3. M. D. Bonner, M.D., Jamestown—"The Use of the Bronchoscope in Pulmonary Diseases." Discussion opened by Charles Hartwell, M. D., Asheville.
4. A. L. Ormond, M.D., Black Mountain—"Artificial Pneumothorax Supplemented with the Phrenic Nerve Operation." Discussion opened by H. L. Seay, M.D., Huntersville.
5. Verne S. Caviness, M.D., Raleigh—"The Clinical Interpretation and Applications of the Electrocardiogram." Discussion opened by T. L. Umphlet, M.D., Raleigh.

6. O. Norris Smith, M.D., Greensboro—"The Treatment of Diabetic Coma with Limited Laboratory Aid." Discussion to be opened by Richard Z. Query, Jr., M.D., Charlotte.
7. F. B. Watkins, M.D., Superintendent, State Hospital, Morganton—"A Report on the Trend of Mental Disease in the Western State Hospital District of North Carolina."

SECTION ON PUBLIC HEALTH AND EDUCATION

Tuesday, May 14, 2:00 P. M.
(Dutch Room)

F. E. Willson, M.D., Chairman, Tarboro

1. W. P. Richardson, M.D.. Chapel Hill—"Prevenception, the Health Department, and the Practicing Physician."—Discussion opened by Bayard Carter, Durham.
2. William L. Fleming, M.D., Chapel Hill—"Some Aspects of the Syphilis Control Program."
3. W. Z. Bradford, M.D., Charlotte—"The Practicing Physician's Part in Maternity and Infancy Care."
4. Harrell Brown, M.D., Chapel Hill—"Malaria."
5. Roy Norton, M.D., Chapel Hill—"Twenty-five Years Health Progress in North Carolina." Before Second General Session.

SECTION ON GYNECOLOGY AND OBSTETRICS

Wednesday, May 15, 2:00 P. M.
(Ladies' Card Room)

John C. Tayloe, M.D., Chairman, Washington

1. Richard L. Pearse, M.D., Durham—"Carcinoma of the Cervical Stump." Discussion opened by A. L. DeCamp, M.D., Fayetteville.
2. George M. Cooper, M.D., Raleigh—"Birth Control." Discussion opened by Oren Moore, M.D., Charlotte.
3. Robert Alexander White, M.D., Asheville—"Maternal Welfare as Related to Some of the More Dangerous Complications." Discussion opened by Frank A. Sharpe, M.D., Greensboro.
4. G. Carlyle Cooke, M.D., Winston-Salem—"The Complete Gynecological Service with Present Status of Endocrine Therapy."
5. Wallace B. Bradford, M.D., Charlotte—"Endometriosis." Discussion opened by Ivan Proctor, M.D., Raleigh.
6. O. Hunter Jones, M.D., Charlotte—"Forceps Delivery." Discussion opened by G. W. Johnston, M.D., Wilmington.
7. Thomas Leslie Lee, M.D., Kinston—"Our Efforts to Reduce the Morbidity of Child Bearing." Before Second General Sesson.

SECTION ON PEDIATRICS

Wednesday, May 15, 2:00 P. M.
(Men's Card Room)

G. W. Kutscher, Jr., M.D., Chairman, Asheville

1. S. F. Ravenel, M.D., Greensboro—"The Art of Pediatrics."
2. D. L. Smith, Sr., M.D., Saluda—"The Science of Pediatrics."
3. W. C. Davison, M.D., Durham—"The Future of Pediatrics."
4. B. W. Roberts, M.D., Durham—"The Economics of Pediatrics."
5. Arthur H. London, Jr., M.D., Durham—"The Aims of the Academy of Pediatrics in North Carolina." Before the First General Session.

SECTION ON GENERAL PRACTICE OF SURGERY

Wednesday, May 15, 2:00 P. M.
(Ball Room)

C. S. Jones, M.D., Chairman, Cliffside

1. Chairman's Address.
2. H. C. Thompson, M.D., Shelby—"Gout."
3. J. A. Sinclair, D.D.S., Asheville—"Local Application of Sulfanilamide to Dental Lesions."
4. R. D. McMillan, M.D., Red Springs—"Emergency Treatment of Acute Heart Failure in General Practice."
5. J. Lamar Callaway, M.D., Durham—"Eczematoid Dermatitis of the Hands."
6. H. F. Easom, M.D., Sanatorium—"Pneumoconiosis."
7. H. M. Baker, M.D., Lumberton — "Snake Venom in the Relief of Pain."
8. Fred M. Hanes, M.D., Durham—"Sprue." Before First General Session.

NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

Thirteenth Annual Meeting
Monday, May 13, 1940
(Ball Room)

President—A. H. Elliott, M. D., Wilmington
President-elect—J. W. Williams, M.D., Williamston
Vice-President—W. P. Richardson, M.D., Chapel Hill
Secretary-Treasurer—Roy Norton, M.D., Chapel Hill

PROGRAM

Monday Morning, May 13

A. H. Elliott, M.D., President, Presiding

1. 9:00 a.m.—Registration.
2. 10:00 a.m.—Call to Order
3. Invocation—Rev. A. J. McKelway, Presbyterian Community Church, Pinehurst.
4. Walter Wilkins, M.D., Raleigh—"The North Carolina Coordinated School Health Program." Discussion led by Mr. James P. Shifford, Superintendent of Education in Stanly County and S. B. McPheeters, M.D., Goldsboro.
5. George B. Patton, Assistant Attorney General, Raleigh—"Legal Problems of the Health Officer." Discussion led by J. H. Epperson, Durham.
6. J. C. Knox, M.D., Raleigh—"Evaluation of Present Regulations Regarding Quarantine, Isolation, Placarding and Reporting in the Control of Communicable Diseases." Discussion led by C. N. Siske, M.D., Waynesville and M. J. Roseneau, M.D., Chapel Hill.
7. Frank C. Smith, M.D., Charlotte—"Factors in Vision Testing of School Children." Discussion led by D. E. Ford, M.D., Washington.
8. Professor H. B. Gotaas, Chapel Hill—"Public Health Aspects of Swimming Pool Control." Discussion led by J. A. Whitaker, M.D., Rocky Mount and R. L. Carlton, M.D., Winston-Salem.

MONDAY AFTERNOON, MAY 13

(Ball Room) 2:00 P. M.

W. P. Richardson, M.D., Vice President, Presiding

1. L. L. Parks, M.D., Jacksonville, Florida—"Preparation and Value of Annual Reports." Discussion led by J. S. Anderson, M.D., Raleigh.

2. D. F. Milam, M.D., International Health Board —"The Nutrition Survey." Discussion led by Carl V. Reynolds, M.D., Raleigh.
3. T. G. Faison, M.D., Winton—"Planning the Small County Venereal Disease Program." Discussion led by G. M. Leiby, M.D., Washington, D. C., and L. Wallin, M.D., Wadesboro.
4. Business Session:
   1. Progress Report and Discussion of Retirement Plans.
   2. Discussion of Constitution and Affiliation with A. P. H. A.
   3. Other Committee Reports and Business.
   4. Election of Officers.

MONDAY EVENING, MAY 13

H. Lee Large, M.D., Member, State Board of Health, Presiding

1. 6:30 p.m.—Dinner.
2. President's Address—A. H. Elliott, M.D., Wilmington.
3. Address—Ben E. Washburn, M.D., Rutherfordton, formerly with the International Health Board.
4. Program by local entertainers arranged by John Symington, M.D., Carthage.

ALUMNI MEETINGS

Tuesday, May 14, 1940

1:00 p.m.—University of North Carolina Alumni Luncheon.

1:00 p.m.—University of Pennsylvania Alumni Luncheon.

6:30 p.m.—Wake Forest College Alumni Dinner (Crystal Room)
Address—C. C. Carpenter, Dean, School of Medicine, Wake Forest College—"Plans and Policies of the Bowman Gray School of Medicine", with a lantern slide demonstration of the new School and Hospital in Winston-Salem. Remarks, Thurman D. Kitchin, M.D., President, Wake Forest College. Wives of Alumni invited. No extra charge for those registered at the Carolina; others, $2.00 per plate.

WEDNESDAY, MAY 15, 1940

1:00 p.m.—Jefferson Alumni Luncheon.
No extra charge for Luncheon or Dinner Meeting for those registered at the Carolina; others, Luncheon Meetings $1.50 per plate and Dinner Meetings $2.00 per plate.

SCIENTIFIC EXHIBITS

Joseph A. Elliott, M.D., Charlotte, and David G. Welton, M.D., Charlotte. "Kodachrome Transparencies of Skin Eruptions." Space No. 5.

Division of Oral Hygiene, State Board of Health, Raleigh. "Mouth Health Teaching in the Schools." Spaces No. 7 and No. 8.

Joseph M. Hitch, M.D., Raleigh, and N. F. Conant, Ph.D., Duke Hospital, Durham. "Fungus Infections of the Skin and Mucous Membranes Occurring in North Carolina." Spaces No. 69, No. 70, No. 71, No. 72, No. 73, and No. 74.

T. F. Vestal, M.D., Raleigh, and Mrs. M. F. Trice, Raleigh. "Division of Industrial Hygiene." Spaces No. 1, No. 2, and No. 3.

News Notes from the State Board of Health

In a radio broadcast over station WPTF, Mr. M. A. Taff, Jr., in charge of the Central Tabulating Unit of the State Board of Health, made the following statement:

"The physical make-up of the venereal disease population now under Central Tabulating Unit is as follows: 88.6 per cent of the population is colored, 11.0 per cent white, and 0.4 per cent Indian. 37.3 per cent is male and 62.7 per cent female. Last fall when I first spoke over this station about the C. T. U. I stated that it was—'expected that after the entire state is under the Central Tabulating Unit such rigid control can be effected for each venereal disease patient as to demonstrate to Washington and the rest of the nation that we in North Carolina are really making headway towards stamping out syphilis.' I now say that our demonstration has started."

In a radio broadcast on April 16, entitled "Spreading Health News", William H. Richardson stated that "during the past three years articles about the State Board of Health have been compiled and pasted in large scrap-books, in which there are, up to this time, approximately 435 large pages of solid reading matter which, in years to come, will furnish a complete and accurate history of the Board's activities during this period. News given out by the State Board of Health does not constitute propaganda, in the generally-accepted sense of that term. Public health is divorced from politics; it has no candidates to elect or defeat, no private interests to serve. The names of those associated with the various activities about which articles are written are given simply to identify the work that is being done. Often, no names whatever appear in news releases—when they refer to some broad subject which does not need to be associated with any particular division or individual."

* * * *

During the first quarter of 1940, there were 933 more deaths in North Carolina than occurred during the corresponding period of 1939, and only 325 more births, according to reports compiled by the State Board of Health's Vital Statistics Division, of which Dr. R. T. Stimpson is the director. Through March, there had been 19,056 live births in the State this year, as compared with 18,731 the first quarter of last year; while 1940 deaths numbered 9,334, as compared with 8,401 a year ago.

There have also been more deaths among infants under a year old this year and more maternal deaths. During January, February and March, 1940, 1,317 North Carolina babies under a year old died, as compared with 1,210 last year. The number of maternal deaths during the first quarter of 1940 was 111, as against 103 last year.

Influenza took a heavy toll during the first two months of 1940, but deaths from that cause were fewer in March. Through the first quarter, influenza claimed 543 North Carolinians, as compared with 302 through the corresponding period of 1939.

Pneumonia deaths for the 1940 period under consideration totaled 911, against 901 a year ago, showing only a slight increase.

* * * *

The death rate from typhoid fever here in North Carolina in 1914 was 35.8 per 100,000 population. Last year, it was only 1.3.

* * * *

The April number of **The Health Bulletin**, published by the North Carolina State Board of Health, is a laboratory number, devoted to the new Clarence A. Shore Laboratory building which was dedicated on February 21.

Notes from the School of Medicine, University of North Carolina

The following new appointments to the faculty of the Division of Public Health have just been announced by Dr. Milton J. Rosenau, Director:

Dr. John Wright, formerly Director of the Division of Vital Statistics, Tennessee Department of Public Health, to be Research Professor of Epidemiology.

Dr. William P. Richardson, Associate Professor of Public Health Administration, in charge of Orange, Person and Chatham District Health Department.

Dr. Sterling Brackett, from the University of Wisconsin, Instructor in Public Health.

* * * *

Dr. Henry H. Kessler, from the Newark, N. J., Department of Health, lectured to the medical and public health students April 23 on "The Rehabilitation of the Industrial Worker."

* * * *

Dr. Wm. deB. MacNider attended the meeting of the American Philosophical Society in Philadelphia, and the National Academy of Science in Washington recently.

* * * *

Dr. W. R. Berryhill was recently elected a Fellow in the American College of Physicians and Dr. E. McG. Hedgpeth an Associate of the College.

News Notes from Duke University School of Nursing and Duke University School of Medicine

On March 16, forty-three students in the first year class of the School of Nursing received their caps in an impressive ceremony in the Duke Hospital amphitheatre. The capping ceremony marks the completion of a student's probationary period and her acceptance as a full-fledged student nurse. Mr. F. Vernon Altvater, Superintendent of the Hospital, addressed the students.

On March 30, Dr. Richard Kovacs, Clinical Professor and Director of Physical Therapy at the Polyclinic Medical School and Hospital, New York City, gave an illustrated lecture at Duke Hospital on "Electricity in Medicine—Historical and Practical Aspects."

North Carolina Neuropsychiatric Society

The North Carolina Neuropsychiatric Society met in Winston-Salem at the Robert E. Lee Hotel on March 29. At the afternoon session Dr. E. A. MacMillan read a paper on "Acute Disseminated Encephalomyelitis", Dr. John C. George spoke on "Some Unusual Neurological Conditions (Spontaneous Subarachnoid Hemorrhage and Horner's Syndrome)", and Dr. Richard F. Richie gave a talk on "What Is Mental Hygiene". At the evening session, following the dinner, Dr. A. P. Noyes, Superintendent of the Pennsylvania State Hospital, spoken on "Personality and Psychosis".

Fifth District Medical Society

Members of the Fifth District Medical Society were the guests of Dr. W. D. Jones at a fish fry held at Blewett Falls on April 25.

Eighth District Medical Society

The Eighth District Medical Society held its spring meeting on April 11 at the O. Henry Hotel in Greensboro. At 3:00 p. m. a symposium was held on The Early Signs and Symptoms of Cancer in:

the Esophagus—Dr. B. E. Rhudy
the Stomach—Dr. A. deT. Valk
the Bowel—Dr. H. L. Brockmann
the Bladder—Dr. C. O. Delaney
the Uterus—Dr. Moir Martin
the Breast—Dr. R. O. Lyday
the Bones—Dr. R. A. Moore.

This was followed by a general discussion and a business meeting for the election of officers. Officers elected for the coming year are: Dr. James McG. McAnally, president; Dr. P. W. Fetzer, vice-president; Dr. B. F. Cozart, secretary-treasurer. All are of Reidsville, which is the place selected for the fall meeting of the society. This year's officers, all of Greensboro, were J. T. Taylor, president; M. D. Bonner, vice-president; and J. Norris Smith, secretary-treasurer.

At the dinner meeting at 6:30 p. m., Dr. J. Shelton Horsley of Richmond gave an address on "The Principles of the Treatment and Handling of Cancer Patients".

Ninth District Medical Society

The Ninth District Medical Society held a symposium on Malignancy at the Vance Hotel in Statesville, on April 4. The following program was presented:

2:00 P. M.

"Diagnosis in Cancer"—Dr. T. V. Goode, Statesville.
Discussion: Dr. B. W. McKenzie, Salisbury
Dr. W. D. McLelland, Mooresville.

"Diagnosis and Treatment of Malignancy of the Cervix Uteri"—Dr. A. Hinson, Statesville.
Discussion: Dr. Verne Blackwelder, Lenoir
Dr. John C. Reece, Winston-Salem.

"Irradiation of Metastatic Malignancy" — Dr. J. Rush Shull, Charlotte.
Discussion: Dr. J. P. Rousseau, Winston-Salem
Dr. Milton Friedman, New York.

"The Responsibility of the Clinician in the Pathological Diagnosis of Tumors"—Dr. C. C. Carpenter, Wake Forest.
Discussion: Dr. Bivins Helms, Morganton
Dr. Alfred Blumberg, Asheville.

Dinner—7:00 P. M.

Toastmaster—Dr. James W. Davis

Guest Speaker—Dr. Milton Friedman, Radiologist, New York University.
Subject: "Benign and Malignant Tumors of the Breast"

Officers of the Society are Dr. W. H. Kibler, Morganton, president; Dr. W. D. McLelland, Mooresville, vice-president; Dr. J. R. Terry, Lexington, district councilor; and Dr. J. Sam Holbrook, Statesville, secretary-treasurer.

Carolinas-Virginias Hospital Conference

The Tenth Annual Convention of the Carolinas-Virginias Hospital Conference, which is made up of the Hospital Associations of North and South Carolina, Virginia, and West Virginia, was held at Winston-Salem on April 4, 5, and 6. At the same time the North Carolina Dietetic Association and the North Carolina Association of Medical Records Librarians held associated meetings.

North Carolina Tuberculosis Association

The twentieth annual meeting of the board of directors of the North Carolina Tuberculosis Association was held at the Robert E. Lee Hotel in Winston-Salem on April 23. The annual report, read by the managing director and unanimously approved by the board, showed a decrease in the deaths from tuberculosis in North Carolina during 1939. There were 50.7 deaths per 100,000 population during the past year, as compared with 53.4 in 1938 and 138.2 in 1914—a decrease of 60 per cent in the last 25 years. The board recommended for the 1940 program a strengthening of the field service work and hearty cooperation with the medical profession, with state and local health groups, and with social agency departments, both official and non-official.

Officers elected were: Mrs. Charles E. Platt, Charlotte, president, succeeding Dr. P. A. Yoder; Dr. C. W. Armstrong, Salisbury, first vice-president; Dr. William H. Smith, Goldsboro, second vice-president. Frank W. Webster, Winston-Salem, was re-elected managing director. Other members of the executive committee are: Dr. P. P. McCain, Sanatorium; Dr. S. D. Craig, Winston-Salem; Dr. John Donnelly, Charlotte; and Dr. P. A. Yoder, Winston-Salem. Dr. G. L. Rea of Charlotte, Dr. C. E. Howard of Goldsboro, Dr. S. M. Bittinger of Black Mountain, Dr. H. L. Seay of Huntersville, Mrs. Leonard White of Greensboro, and Dr. N. T. Ennett of Greenville were named as new members of the Board of Directors.

Mecklenburg County Medical Society

At the first April meeting of the Mecklenburg County Medical Society, held on April 2, Dr. Hamilton McKay spoke on "Retention of Urine, a Symptom Encountered in General Practice"; Dr. David Welton gave a paper on "Therapeutic Malaria in Central Nervous System Syphilis"; and Dr. J. M. Northington spoke on "Some Features of Health Care of the Aging". Papers presented at the meeting on April 16 were: "Uterine Dystocia", by Dr. Brodie Nalle; "Forceps Delivery", by Dr. Hunter Jones; "Bone Tumors", by Dr. Richard Baxter; and a Case Report on Siamese Twins, by Dr. Parker Hardin, of Monroe.

Buncombe County Medical Society

The Buncombe County Medical Society held two meetings in April. On April 8, Dr. S. Weizenblatt discussed "Strabismus, an Old Problem—a New Challenge". On April 15 Dr. Edgar F. Fincher, Associate Professor of Surgery at Emory University and one of the outstanding brain surgeons of the country, discussed the general subject of brain tumors.

Forsyth County Medical Society

At the regular monthly meeting of the Forsyth County Medical Society, held at the City Memorial Hospital in Winston-Salem on April 11, Dr. E. V. Benbow and Dr. G. C. Cook presented papers which they will read at the state society meeting. Dr. Benbow's subject was "Subtotal Gastrectomy"; Dr. Cook's paper was on "Sexual Inadequacy".

The Society voted to appropriate $102—a dollar per member—to the National Physicians Committee, in addition to private donations.

Guilford County Medical Society

With Dr. Phillip B. Davis presiding, the Guilford County Medical Society held a short business meeting on April 11, following the meeting of the Eighth District Medical Society. The Society voted to donate $50.00 to the National Physicians Committee. The motion was carried that the May meeting be designated as a Dr. D. A. Stanton meeting in honor of the fifty-third anniversary of his practice. Dr. J. T. Taylor and Dr. W. F. Cole were recognized as honorary members. Members of the Greensboro Tumor Clinic were reappointed, with the addition of Drs. Ownbey, Rhudy and Matthews.

Halifax County Medical Society

The Halifax County Medical Society held its regular meeting Friday evening, April 12, at 7:00 o'clock, at the Roanoke Rapids Hospital.

Dr. W. W. Green, of Tarboro, the guest speaker of the meeting presented a paper on "Treatment of Burns".

Thermal Belt Medical Society

The Thermal Belt Medical Society held a dinner meeting at the Marion Lake Club at Marion, N. C., on April 18. The following program was presented:

"Middle Meningeal Hemorrhage"—Dr. Paul McBee, Marion, N. C.

"The Gonorrheal Problem"—Dr. I. A. Phifer, Spartanburg, S. C.

"Sutures and Suture Material"—Dr. John Hamrick, Shelby, N. C.

"Maternal Health Program in Polk County"—Dr. Austin Woody, Tyron, N. C.

Announcement from "Industrial Medicine"

The Twenty-Fifth Annual Meeting of The American Association of Industrial Physicians and Surgeons, together with the First Annual Meeting of The American Industrial Hygiene Association, will be held at the Hotel Pennsylvania, New York City, June 4, 5, 6 and 7, 1940. This will be a four-day convention intensively devoted to the problems of industrial health in all of their various medical, technical, and hygienic phases, with particular stress on prevention and control of occupational hazards. Important programs have been prepared, and technical and scientific exhibits will be a feature of the convention. The dinner on Thursday evening, June 6, will be the occasion of the presentation of the Wm. S. Knudsen award for the year of 1939-40. The medical profession is not only invited, but urged to attend these gatherings, as they will be of unusual interest and value to all practitioners interested in industrial injuries and illnesses.

Post-Graduate Course in Obstetrics

The University of Chicago and the Chicago Lying-in Hospital in cooperation with the Illinois State Department of Health and the Children's Bureau, U. S. Department of Labor, are offering a five to six weeks' postgraduate course in obstetrics. The only cost to the practitioners will be their board and room, incidental personal expenses, and a nominal fee of $15 for miscellaneous items. The number accepted for each course will be limited in order to maintain a more direct relationship between the general pratitioner and the staff.

Applications and inquiries should be addressed to: Postgraduate Course, Department of Obstetrics and Gynecology, 5848 Drexel Avenue, Chicago, Illinois.

Advisory Council on Medical Education

The following resolutions were unanimously adopted by the Advisory Council on Medical Education in February, 1940.

Inasmuch as the internship is now universally regarded as a part of the basic preparation for the practice of medicine and to be fully satisfactory must be integrated with the medical course proper, the Advisory Council on Medical Education recommends that the Association of American Medical Colleges in cooperation with national medical and hospital organizations and the Federation of State Medical Boards and state licensing bodies and after consultation with the Council on Medical Education and Hospitals of the American Medical Association should formulate minimum educational standards for the internship and should prepare a list of hospitals in this country which meet these standards.

Inasmuch as the internship is now universally regarded as a part of the basic preparation for the practice of medicine, the Advisory Council on Medical Education recommends to the Federation of State Medical Boards that an internship of not less than twelve months and of satisfactory educational content be required for admission to the state licensing board examinations in all states.

Basic Principles of the Internship

1. The internship should be regarded as a part of the basic preparation for either beginning the general practice of medicine or undertaking advanced training in a specialty.

2. The internship should provide a real educational experience and a period of clinical responsibility under supervision which aims to complete the clinical clerkship of the medical course.

3. The internship should be an important responsibility of the staff and be under the direction of those members who are competent to provide the necessary instruction.

4. The internship should be a joint responsibility of the medical schools and of those hospitals which can provide a satisfactory completion of the fundamental preparation for medical practice.

Believing that the public interest as well as that of the medical profession and of medical education would be served by a satisfactory method of interstate endorsement of licensure, the Advisory Council on Medical Education recommends to the Federation of State Medical Boards that all state licensing boards endorse without further examination the licensure of an applicant previously obtained by examination in another state whose standards of education and examination are not lower than their own, provided that the applicant is a graduate of a medical school in the United States and its possessions which at the time of his graduation was on the list of approved medical schools.

Recognizing the widening public, cultural and educational interests of medicine, the Advisory Council on Medical Education recommends to the Association of American Medical Colleges, the Association of American Universities and the Association of American Colleges that the college preparation for medical studies above the necessary grasp of the fundamental principles of biology, physics and chemistry should be devoted to general education rather than additional forms of preprofessional education.

National Gastroenterological Association

The Fifth Annual Convention of the National Gastroenterological Association will be held at the Hotel Roosevelt in New York City on June 4, 5 and 6, 1940.

Among those who will present papers during the three-day Scientific Session will be: Prof. J. D. Adamson, University of Manitoba; Dr. W. Wayne Babcock, Temple; Prof. B. P. Babkin, McGill; Dr. Anthony Bassler, New York, N. Y.; Prof. James H. Black, Baylor; Dr. Richard B. Cattell, Lahey Clinic; Dr. Isidore Cohn, L. S. U.; Prof. Charles A. Doan, Ohio State; Dr. Max Einhorn, New York, N. Y.; Dr. I. R. Jankelson, Tufts; Dr. Chester S. Keefer, Harvard; Dr. A. L. Levin, L. S. U.; Prof. Willard D. Mayer, Wayne; Prof. Tate Miller, Baylor; Prof. J. Louis Ransohoff, University of Cincinnati; Dr. Stanley P. Reimann, Jefferson; Dr. G. M. Russell, Billings, Mont.; Prof. H. P. Smith, Iowa; Dr. Horace W. Soper, St. Louis; Prof. S. J. Thannhauser, Tufts; Dr. Robert Zollinger, Harvard.

Further information and program will be forwarded upon request by Dr. Henry Kendall, Chairman of the Program Committee, 16 East 96th Street, New York, N. Y.

American Medical Golfing Association

The American Medical Golfing Association's Twenty-Sixth Annual Tournament will be held at Winged Foot Golf Club, Mamaroneck, New York, Monday, June 10.

The sixty prizes, in the nine events, will be distributed after the banquet at the club-house at 7:00 p. m.

Officers of the A. M. G. A. for 1940 are George Washington Hall, M. D., Chicago, President; D. H. Houston, M. D., Seattle, First Vice-President; Grayson Carroll, M. D., St. Louis, Second Vice-President; Bill Burns, Secretary, 2020 Olds Tower, Lansing, Michigan.

All members of the A. M. A. are eligible for Fellowship in the A. M. G. A. For registration application write the Secretary, Dr. Bill Burns, 2020 Olds Tower, Lansing, Mich.

News Notes

"A Study of the Occipitoposterior Positions of the Vertex: Analysis, Management and Results in 106 Consecutive Cases", by Drs. Ivan M. Procter and Kenneth Dickinson of Raleigh, was the leading article in the **Journal of the American Medical Association** for February 3. Another article by Dr. Procter, Dr. C. C. Carpenter, and Dr. R. P. Morehead, entitled "The Relation of Chronic Cystic Mastitis to Malignancy", appeared in the March issue of **Surgery, Gynecology and Obstetrics.**

* * * *

Dr. Addison Brenizer, of Charlotte, was named president-elect of the Tri-State Medical Society at its meeting in Richmond.

* * * *

Dr. Rowland T. Bellows has recently located in Charlotte for the practice of neurosurgery. He was formerly associated with the University of Rochester Medical School and the Strong Memorial Hospital in Rochester.

* * * *

Dr. C. C. Belcher, formerly of Alabama, is now associated with Dr. T. R. Huffines in Asheville.

* * * *

Dr. J. P. Sullivan, from Massachusetts, is now on the staff of Highlands Hospital in Asheville.

WOMAN'S AUXILIARY

Officers

President: Mrs. C. F. Strosnider, Goldsboro.
President-Elect: Mrs. C. R. Hedrick, Lenoir.
Chairman of Past Presidents: Mrs. P. P. McCain, Sanatorium.
Corresponding Secretary: Mrs. Jack Harrell, Goldsboro.
Recording Secretary: Mrs. J. D. Freeman, Wilmington.
Treasurer: Mrs. C. E. Judd, Raleigh.

A MESSAGE FROM THE PRESIDENT

I should like to make an appeal for all members to attend the State Convention. The program committee has worked out a most interesting program, with Mrs. Charles P. Corn of Columbia, S. C., president of the Southern Auxiliary, as principal speaker. The reports will show a very progressive State Auxiliary, in which all auxiliary members will be interested. The hostesses have planned a most enjoyable three days, with outstanding social events. I hope that every doctor's wife will attend the State Convention—her convention—and have a delightful time.

(Signed) MRS. C. F. STROSNIDER,
President.

* * * *

ENTERTAINMENT FOR WOMEN

Hostesses—Moore and Hoke County Doctors' Wives

MONDAY—MAY 13

3:00 P. M.—Drive to State Sanatorium.
Tea—Mrs. P. P. McCain's Residence.
8:30 P. M.—"Keno" — Pine Room — Carolina Hotel.
"Being Clinic'd" — by Mrs. Knight, Mt. Olive.

TUESDAY—MAY 14

9:30 A. M.—Opening Session—State Society.
10:30 A. M.—Annual Auxiliary Meeting, Pine Room, Mrs. C. F. Strosnider, President.
2:00 P. M.—Drive to Orchid Gardens, Knollwood, and to Matinee, Carolina Theatre, Southern Pines.
Evening —With Medical Society.

WEDNESDAY—MAY 15

10:00 A. M.—Bridge—Women's Card Room, Carolina Hotel.

Information

1. Register on arrival and receive badge. $1.00 Registration Fee for all who do not present 1940 membership cards.
2. Wear Badge to all functions.
3. Please register promptly for various events and help the meeting run smoothly.
4. Visiting women are asked to drive their own cars if possible.

* * * *

MINUTES OF THE BOARD OF DIRECTORS OF THE AUXILIARY TO THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

Spring Meeting

Friday, March 12, 1940

Goldsboro, N. C.

The Board of Directors met with Mrs. C. F. Strosnider, who called the meeting to order at twelve o'clock April 12, 1940. Mrs. P. P. McCain invoked God's blessings upon the members and their deliberations. Mrs. Strosnider presented greetings, graciously welcoming us and urging us to feel "at home in her home". She said all of Goldsboro evinced their interest in our presence by the many courtesies extended her, helping her in her expression of hospitality. Mrs. W. H. Smith also spoke words of welcome. Three corsages having been sent, one was presented to Mrs. C. R. Hedrick, president elect, and one to Mrs. P. P. McCain and one to Mrs. J. B. Sidbury in recognition of their many services to the organization.

Mrs. Strosnider stated that she would not give a full report now, since that would be made at the State meeting of the Auxiliary. She said, however, that she had had a pleasant year, the burdensome part of her work being greatly relieved by the stenographic help of Miss Bass, Dr. Strosnider's secretary, and the efficiency of her corps of officers. Mrs. P. P. McCain gave no formal report. Mrs. Hedrick, president-elect, said that her year had been spent in preparation for her work as president, reading the minutes of past meetings, and preparing a hand-book of instructions and suggestions for presidents. She thanked Mrs. Strosnider for her help and expressed the hope of trying to make the standard set by Mrs. Strosnider.

For sake of brevity, the comprehensive reports made by the vice presidents, chairmen of committees, and district councillors will not be recorded here. They are filed in the secretary's book to be used as references.

After Mrs. Kent's report on the McCain Bed, Mrs. P. P. McCain gave us a personal glimpse of our guest patient, who is a nurse and the daughter of a doctor who was killed while performing his duty. She is a very deserving person, and would appreciate any attentions we could show her. Mrs. McCain reported that the Robeson County Auxiliary had given a year's subscription to *Life* to the patient in the McCain Bed. At the conclusion of her report on the Student Loan Fund, Mrs. R. A. Moore read a letter from Charles Highsmith, Jr., of Fayetteville, applying for a loan. Mrs. Ben Lawrence made the motion, seconded by Mrs. P. P. McCain, that this name be referred to the Student Loan Committee for consideration and decision.

Upon the report that Mrs. Isaac Manning was in Watts Hospital, the motion was made by Mrs. R. S. McGeachy, seconded by Mrs. Judd, that a letter be written to her expressing our regret at her absence. The secretary was instructed to do this. The Board members were requested by the president to make any suggestions as to material to be used in the April and May issues of the NORTH CAROLINA MEDICAL JOURNAL to Mrs. Sidney Smith, whom she had appointed for this task. Mrs. Smith was authorized to select a committee.

The question was asked by Mrs. Strosnider: Have the printed sheets of information compiled in the fall proved helpful to the organization? Mrs. Harry Winkler and Mrs. T. L. Lee expressed themselves in favor of them. Also the question was made as to whether the results secured from pamphlets and other forms of literature distributed justified the work and expense which these incur.

Our roster of officers and chairmen and our transactions were for some reason left out of the TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA —1939. We appreciate the special pamphlets which were gotten out to help correct this oversight, but we feel that these will reach only our membership of this year and that it is not so permanent as the regular bound edition of the TRANSACTIONS and will be more easily misplaced. Therefore, it was moved by Mrs. J. B. Sidbury, seconded by Mrs. R. S. McGeachy, and carried, that the secretary write a letter to the chairman of the Publications Committee and to the incoming president of the Medical Society of the State of North Carolina requesting that the TRANSACTIONS carry our roster of officers and chairman for 1938-39 as well as for 1939-40, and that our future records be incorporated in the TRANSACTIONS so that the records would be unbroken.

At this time the Board adjourned to enjoy a most delectable luncheon served by our hostess and her friends.

Upon reassembling, the treasurer, Mrs. E. C. Judd, gave the following report: Balance in upkeep of McCain Bed Fund, $276.87; balance in General Expense Fund, $316.12; balance in Student Loan Fund, $652.52; amount in McCain Endowment Fund, $1,605.59. Mention was made of the excellent report of Mecklenburg County.

From the excellent reports of District Councillors the idea employed by the Charlotte Auxiliary was deemed worthy of note as an example to other Auxiliaries—namely, the entertaining at a tea of those doctors' wives who had entered the organization since 1935.

Under old business, Mrs. P. P. McCain reported on the tentative program for the Auxiliary meeting at the State Convention in Pinehurst. The speaker is to be Mrs. Charles P. Corn, Columbia, S. C., president of the Southern Medical Auxiliary. Many interesting plans of entertainment were outlined. Mrs. McCain asked if it would be permissible to charge at the card party to help defray the expense. The concensus of opinion was that a nominal charge should be made.

The motion was made by Mrs. J. B. Sidbury, seconded by Mrs. R. S. McGeachy, that at the annual state meting reports be made only by the president, vice presidents representing the projects of the auxiliary, treasurer, and district councillors.

As new business, the president brought up for discussion the suggestion of Dr. Long that the Auxiliary secure advertisements for the NORTH CAROLINA MEDICAL JOURNAL. Mrs. R. S. McGeachy was appointed chairman of a committee to investigate the advisability of this. She selected Mrs. J. B.

Sidbury and Mrs. P. P. McCain as members of her committee.

Mrs. Strosnider announced the meeting of the American Medical Association and Auxiliary in New York City, June 10-14, stating that she expected to be present and hoped that others would attend. She urged us to keep tidy, instructive note books to pass on to our successors.

We thank Mrs. Strosnider for the delightful day spent "being at home in her home".

Respectfully submitted,

LIDIE PENTON FREEMAN.
Recording Secretary.

A LAST REMINDER to make your reservation for the 18th Annual Convention of the Woman's Auxiliary to the American Medical Association to be held at the Hotel Pennsylvania, New York City, June 10 to 14, 1940. New York has much to offer aside from the convention and we are sure you will not want to miss the opportunity of visiting New York this year.

Mystery of the Vacant Chairs.—"I cannot understand why so few men attend their county and state medical society meetings. It is not because they are so busy, as the busiest physicians are always found where there is a chance to learn. After years of observation I have reached the conclusion that there are three kinds of physicians who don't attend meetings—(1) the person who has not the ability to plan his work so that he can have an evening for recreation at the meeting; (2) the man who thinks he knows it all, has not read a new book since leaving school, and has no time for reading the Journal or other publications; and (3) the man who is afraid he might lose a patient should he leave his office. These three types form the fault-finding group; they complain, but will not come to the meetings and put their shoulders to the wheel, clarify our visions, help remove the faults they see, and become what is most needed by the society and always welcomed by its officers—workers instead of drones or complainers.

"Yes, the opportunity for the present-day physician to be an up-to-date physician is right at his door, and I am not only sorry for those who are missing these opportunities, but for their patients."
—John A. Hawkins, M. D., Pittsburgh Medical Bulletin; quoted in the New York State J. Med. 40:434 (March 15) 1940.

* * * * *

The Instinct for Intensive Study.—In an era which is so characterized by scientific progress in all directions it would be strange and unfortunate indeed if medical men should lack the instinct for intensive study or for scholarship. Primarily, and in its highest expression, specialization represents the attempt to fulfill an intellectual craving, and as such it is most desirable, both for the tone of the profession itself and for the public which depends on the profession.—Peabody, Francis W.: Doctor and Patient, New York, The Macmillan Company, 1939.

In Memoriam

DR. WILLIAM CARTER MEBANE

By Ernest S. Bullock. M. D.

Wilmington

Dr. William Carter Mebane was born in the country near Madison, in the year 1882. He was the son of a Presbyterian minister. The instructions of the pulpit were his throughout the week. Of a spiritual nature, throughout his lifetime, he walked in the way of the Lord no less firmly than in the footsteps of Apollo, the physician. He was active in the building of the new Winter Park church and served it as an elder.

Dr. Mebane attended Fredericksburg College in Virginia. He studied medicine at Davidson, and finished in 1905 in Charlotte. He remained at The Presbyterian Hospital for an internship.

Locating in Mount Airy, he began the routine of a horse and buggy doctor. In the first year, he contracted typhoid fever. Realizing that death might rob him of the privilege, he called his sweetheart, herself a nurse, to his bedside and married her. Her ministrations continued until February 4, 1940, when these two were separated by his death. His mantle falls on the shoulders of an able son.

In 1915, Dr. Mebane completed the course in Urology at the New York Post Graduate Medical School, and moved to Wilmington. He was our first specialist in this branch, and dominated the field until his death. By temperament he was conservative. He was always a student, and as experience accumulated, his opinions became definite and useful. Competent, generous, understanding and intuitively ethical, he was a fine colleague. So well did he manage his practice that he had more personal leisure than any physician I have ever known. He was too modest to publish his opinions and too sincere to exploit himself. He was strictly a clinician. By patience and intelligent investment, he accumulated a substantial personal estate.

With leisure, Dr. Mebane had time to read, observe and meditate. He evolved a philosophy that brought him peace and happiness. Much of his time was spent at home with his wife and son. He devoted many tranquil hours to his garden and flowers. He played at mechanics, sailing and swimming. No blare of trumpets or flying of banners were needed to stimulate his ego. He epitomized the romance of the commonplace. He was undemonstrative and sought no friendships or profitable associations, but he accumulated an amazing number of both.

Dr. Mebane was natural, nothing added, nothing not shown. He pursued the even tenor of his way. Law abiding by instinct, he obeyed the law, although he might consider the statute unwise. This attitude toward things social, professional, political, and religious, spared him the conflicts by which men are made wretched.

For the last ten years he worked despite declining health. While his strength waned, the order of his life was unchanged. He worked almost to the end. Sickened by obscure disease of the liver, he sought relief by anastamosis of the gall bladder to the intestinal tract. Many factors made death a definite possibility. His mental attitude and expressions should have been recorded and read by all who contemplate surgery. They showed the complete adjustment of the man and his mind, to

Nature and to its laws, under which he lived. He survived his operation for five days; his symptoms relieved, he thrilled with the prospects of a new life. Happy throughout the day, prepared for the night, he expressed the prospects of a pleasant rest. He turned his head on the pillow. In an instant, his spirit was swept away to the abode of our loved ones.

Thus passed an able physician and a noble man. We have much to learn from his life. He showed that a physician can have a normal family life. He proved that we could struggle less, hate less, work less, and have love, peace and friendship in abundance; yet attain personal security. Dr. Mebane attained all of these, and one who does, sung or unsung, is truly great.

Following our custom these personal traits are written into the record, so that young physicians to come may know the manner of men who preceded them.

A PROUD HERITAGE

Medicine is the most ancient of professions, being older than Christianity and antedating the inception of civil law. It has its own system of rewards and punishments, its own disappointments and its own glories. It is a profession that has a broadening influence on the human mind and is characterized by a most splendid charity. It stimulates the acquisition of the best tendencies and is a protection against the worst tendencies. It constructs no trusts; it founds no monopolies; it excludes no qualified practitioner; it retains for its profit no valuable discovery, and it has no standing room for the quack, the scoundrel, and the charlatan. Its best work is done in the light which beats upon its throne, not in the arena of politics encouraged by the cheers of thousands, not in the seclusion of the cloister sustained by the hope of eternal joy, but in the storm and windswept country, in the streets of the village, in the boulevards of the city, on the desolate field of battle where pain and pestilence, illness and misery are combated often with none but God to see it. It furnishes a curiously checkered life, a life in which storm clouds alternate with sunbeams. With the exception of the ministry, it stands closer than any other calling to the secret of eternity and watches death ever busy with her shuttle as she weaves her somber threads into the woof and warp of the affairs of men. It seeks to mitigate human suffering, to prolong human life. These have ever been its watchwords, are still and always will be, constituting its cloud of smoke by day and its pillar of fire by night.

One should enter such a profession with properly exalted ideas; with a belief in its greatness, its dignity, its stability, its real importance, its essential strength. One should resolve to learn to observe, to compare, to analyze, to study, to think, to avoid formulas, to cast out sordid thoughts, to repudiate shallowness, advertising and vain pretentions. In short to be a worthy disciple of Aesculapius, reflecting honor and credit on the profession and deriving from it happiness that makes life worthwhile, being held in grateful remembrance by those whom one has served and in respect and esteem by the confreres with whom and among whom one has lived and worked.—Irvin Abell, M.D., in the Bulletin of the American College of Surgeons, *January, 1940. [Excerpt]*

BOOK REVIEWS

THE PATIENT'S DILEMMA. By Hugh Cabot, M. D. Price $2.50. Pp. 284. New York: Reynal and Hitchcock, 1940.

Although the subtitle of this book is "The Quest for Medical Security in America", it is not calculated to leave the reader, lay or medical, with any feeling of security. It creates the impression in the reader that the average individual private practitioner is incompetent, rapacious, and often stupid; that fee splitting is the rule rather than the exception; and that it is only the relatively high standard of living in this country that is responsible for the good health of the people. In taking issue with the often repeated statement that 85 per cent of the diseases for which people consult doctors could be treated by a competent general practitioner, Dr. Cabot goes to the opposite extreme of insisting that the majority of patients who go to doctors need exhaustive examinations by specialists and laboratory technicians. For example, he says that an x-ray examination "will certainly be required where disease either of the heart or lungs is present". If this be true, most of us have been repeatedly guilty of malpractice in treating pneumonia, rheumatic endocarditis, and coronary occlusions without benefit of roentgenology.

Dr. Cabot's remedy for all our medical ills is to substitute group practice for the individual practitioner, with medical insurance prepaid—and perhaps under Government regulation: "If I have been right in my view . . . that group practice in one form or another is likely to supersede, in considerable fields, private individual practice, then it might easily come about that . . . Government will be able to insist upon standards or refuse to contribute funds."

This book is stimulating and thought provoking. It might well be read with interest and with some degree of profit by members of the medical profession—but it is hard to understand Dr. Cabot's motives in airing publicly such controversial issues, and in virtually slandering his own profession. He may feel better for having it out of his system, but he has not helped the cause of medicine. The confidence a patient has in his doctor is often a tremendous factor in his recovery—and it will be hard for a layman who reads this book ever again to feel the same confidence in his doctor.

THE 1939 YEAR BOOK OF GENERAL THERAPEUTICS. Edited by Bernard Fantus, M.D., late Professor of Therapeutics, University of Illinois College of Medicine; and Leroy Hendrick Sloan, M.D., F.A.C.P., Professor of Medicine, University of Illinois College of Medicine. Price $2.50. Pages, 532. Chicago: The Year Book Publishers, 1940.

This volume measures well up to the standard of its predecessors. It is the twenty-second issued under the editorship of Dr. Fantus—and will be prized more highly by its purchasers because it is the last one, since Dr. Fantus died on April 14.

In preparing this book, literature for 1939 was read thoroughly and abstracted with discrimination. The latest remedies and remedial measures have been included and evaluated with calm, seasoned judgment. More than 2000 articles were read, from which 456 were selected for abstraction. The physician who uses this book for reference may be sure that he is familiar with the most recent trends in therapeutics.

ON OXIDATION, FERMENTATION, VITAMINS, HEALTH AND DISEASE. Abraham Flexner Lectures, Series Number Six. *Albert V. Szent-Gyorgyi, M.D., Professor of Medical and Organic Chemistry,* University of Szeged. Price, $2.00. Pages, 109. *Baltimore: Williams and Wilkins Co., 1939.*

This book contains the five lectures comprising *the sixth series of Abraham Flexner Lectures given* at the School of Medicine at Vanderbilt University *in March and April, 1939, by Dr. Szent-Gyorgyi.*

This series of lectures deals with a field of knowledge which is highly specialized and of which most readers have never heard. In spite of this the subject of biological oxidation has been presented in such a clear and fascinating manner, without any suggestion of "talking down", that it is thoroughly understandable and not at all difficult to read. In the lecture on "Vitamins, Health and Disease", the author points out that the minimal amount of vitamin necessary to prevent manifest disease may be many times less than the amount necessary to keep the body in an optimal condition of perfect health. The mere fact that 1.5 mgs. of ascorbic acid a day will prevent scurvy in an inactive caged guinea pig does not mean that the animal is healthy. The author asks, "Do we call it health if we sit in a corner and do not have scurvy?" He believes that unwarranted conclusions have been made from animal experiments and that somewhere our fundamental conceptions are wrong. The book will probably not be of great interest to the harried general practitioner, but the physician with scientific bent will find much of interest in it.

ESSENTIALS OF THE DIAGNOSTIC EXAMINATION. By John B. Youmans, M.D., Associate Professor of Medicine and Director of Post-Graduate Instruction, Vanderbilt University Medical School. Price, $3.00. Pp. 417. New York: The Commonwealth Fund, 1940.

The purpose of this book is well expressed in the preface: "To assemble in a single volume the minimum of diagnostic methods and procedures needed in the general practice of medicine and available to all physicians." The author has succeeded admirably in his aim. He has the gift of saying clearly and simply what he wants to say, and has compressed into a small volume the essence of a rich experience as a clinician and teacher. The illustrations, while not numerous, are excellent, and really illustrate. The book can be recommended without reservation to the student who wants to master the essentials of physical and laboratory examination with a minimum of effort, and to the practitioner who wants a single volume post-graduate course in the subject. It deserves a long, useful and distinguished life.

The Personal Bond Between Doctor and Patient.—Any reorganization of the medical profession that threatens the personal bond between doctor and patient is to be viewed with suspicion, even if the object appears at first sight to be more thorough and careful practice. With the exception of the relationship that one may have with a member of one's family, or with the priest, there is no human bond that is closer than that between physician and patient (or patient's family), and attempts to substitute the methods of machine or organization, be they ever so efficient, are bound to fail.—Peabody, Francis W.: Doctor and Patient, New York, The Macmillan Company, 1939.

Metrazol For Acute Alcoholism

The Psychiatric Division of Bellevue Hospital has been studying alcoholism and the many problems it creates for some time. Acute alcoholism presents two types of difficult clinical problems—the disturbed, resistive, violent alcoholic patient, or the patient in alcoholic coma. Ordinarily, the former group is treated with sedatives, restraint, and seclusion; and the latter with various stimulants. Because the number of alcoholics admitted to Bellevue is very large, any method which facilitates the management of such patients is desirable. Metrazol was therefore tried in a group of 50 patients, 34 of whom were in an excited state and 16 of whom were comatose.

"Immediately after admission such patients were taken to the emergency room and received 5 cc. of 10 per cent solution of metrazol intravenously, the rate of injection being about 30 seconds for the 5 cc. We found that in a person narcotized with alcohol, this speed of injection failed to induce a general convulsion. In some individuals, twitching of the face appeared. We refer to this dose time factor as a 'subconvulsive dose'."

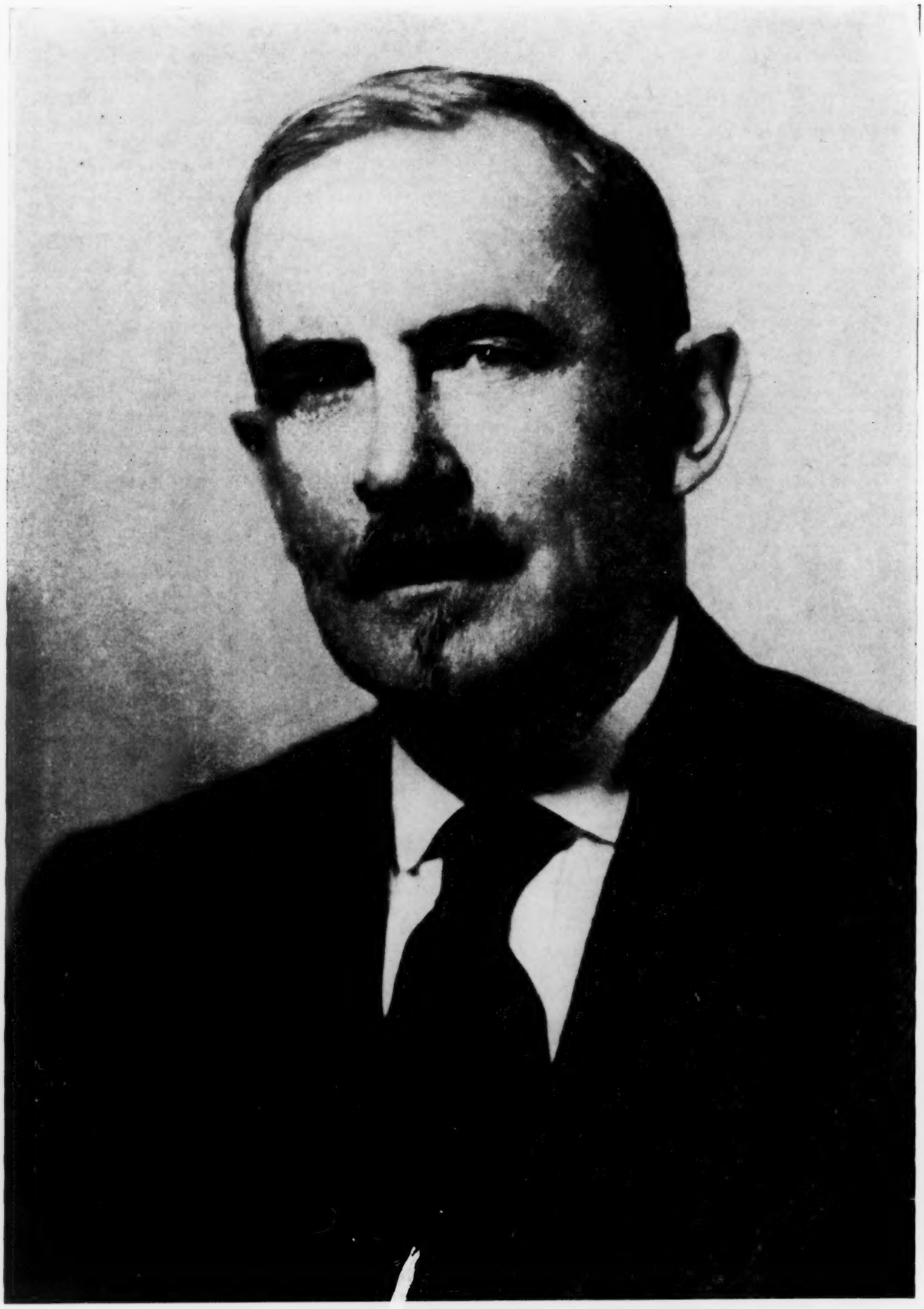
"After the injection the patient was kept in the emergency room for a short time and then sent to the ward best suited for his clinical condition. Sedation and other treatment were ordered as indicated. It was found, however, that a large number of the excited alcoholics would quiet down in two to ten minutes after the injection and no further special treatment would be necessary. Comatose patients frequently regained consciousness in five to thirty minutes and were able to give an adequate admission history."

In discussing their results these authors state the administration of metrazol to acute alcoholics "was followed by a marked improvement in the clinical state. Such improvement manifested itself in the arousal of the comatose cases, and sedation of the excited group. This improvement was not due to any changes of the concentration of alcohol in the blood. It is suggested that this apparent biphasic effect of metrazol is due to a direct stimulation of the narcotized cerebral cortex. In the mildly narcotized, or agitated group, the improvement is ascribed to a stimulation of the depressed inhibitory centers. Improvement in comatose cases is considered to be due to general stimulation of the central nervous system." (Orenstein, Leo L.; Bowman, Karl M.; Kagan, Julia R.; and Goldfarb, Walter —"Use of Metrazol in the Treatment of Acute Alcoholism." Am. J. of Psychiatry, 96:589 (Nov.) 1939.)

SOUTHERNER—
PROTESTANT

Five years surgical training. At present first Assistant to Professor of Surgery Department of eastern medical school. Wishes to locate with a surgeon or with a group of doctors.

For further details, write the NORTH CAROLINA MEDICAL JOURNAL.



WILLIAM ALLAN, M. D.